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BRITISH COLUMBIA

STREAMFLOW INVENTORY

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PREFACE

Hydrology in British Columbia has been studied widely as a science and applied extensively in water resource studies. The primary source of information and data used in hydrologic applications is the federal government which produces streamflow and climatic data in standard condensed form. There is a general need for standard procedures for estimating streamflow characteristics of ungauged watersheds. This is a report of a project that was originated by the Water Inventory Section of the Resources Inventory Branch and funded by the Corporate Resource Inventory Initiative (CRII). The purpose of this work was to compile an inventory of streamflow information required by hydrologists and engineers to make hydrologic estimates for water management and the planning and preliminary design of water resource projects. A series of tables, charts and maps were produced to enable the estimation of various streamflow parameters at ungauged sites in the province.

The hydrology inventory project was initiated in the 1995-1996 fiscal year under the general direction of C.H. Coulson, Unit Head of the section, with the compilation of hydrologic data summary sheets and maps. Coulson initiated the original project plan and designed the format of the datasheets. With the assistance of D.H. Richdale he extracted all the streamflow and climatic data from Environment Canada sources in electronic form and transferred selected data to preprogrammed excel spread sheets. After the completion of some 500 datasheets, he produced 1:2,000,000 scale provincial maps for mean annual runoff and for 10- and 100-year frequency peak flows. In this phase of the project he was assisted by D.E. Reksten who provided instantaneous-to-daily peak flow ratios and checked short duration precipitation estimates, short-record hydrometric stations and the isoplets on 1:600,000 scale working maps. The provincial maps and a draft version of the report have been distributed to ministry regions and private consultants.

A second phase of the hydrologic inventory project was conducted by W. Obedkoff who compiled and summarized summer and annual seven-day average low flows for inclusion in all datasheets. This particular aspect of the work required considerable hydrologic judgement in determining low flows during seasons and years for those hydrometric stations which contained gaps in records. Missing low flow data were not estimated but the many stations with missing records thus had total data maximized. Obedkoff used these data to graphically regionalize summer and annual low flows and to map low flow hydrologic zones. The product in this case was a 2,000,000 scale provincial map of zones with zone graphs rather than isopleths. With the assistance of D.K. Evans, a geography co-op student, he defined 17 hydrologic zones for British Columbia based on the results of this project and the hydrologic zones earlier defined by Ingledow and this ministry.

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1 INTRODUCTION

Hydrologic investigations require summarizing and analyzing available hydrologic data using standard periods, methods and formats so that the information is consistent and allows direct comparison from one site to another. The federal government produces streamflow and climatic data in standard condensed form, but only in an observed or real time form, with gaps for missing data. Except for Environment Canada's 30-year *Climate Normals* publications, there is no published source for standard-period summarized hydrologic data. This report describes the CRII inventory project in which hydrologic characteristics were compiled into a series of standardized tables and charts and regionalized provincial graphs and maps to enable the estimation of various streamflow parameters at ungauged sites in the province. This information is intended to assist hydrologists and engineers to make informed estimates for water management and the planning and preliminary design of water resource projects.

Two basic forms of spread sheets, or datasheets, were compiled in this project, one for streamflow data and the other for climatic data. The datasheets present various hydrologic characteristics that can be used directly in water resource applications, studies and regionalizations. For purposes of comparison all datasheets are filed according to the hydrologic zone for the station. These datasheets and maps and the hydrologic zones defined earlier by Ingledow (T. Ingledow and Associates Limited, *British Columbia Hydrometric Network Study*, April 1969) and this ministry (*Hydrologic Zone Map*, 1995) were used to define 17 new hydrologic zones. These zones which cover the province are shown on the map in Figure 1. A limited number of selected datasheets accompany this report. These datasheets are also available individually in electronic form.

Two basic forms of map sheets of 1:2,000,000 scale covering the whole province of British Columbia were produced showing regionalized streamflow characteristics. One form of map presents annual runoff and peak flow isopleths. The other form presents low flow hydrologic zones with accompanying regional graphs. Both map forms enable the calculation of the streamflow characteristics for ungauged watersheds and can be applied readily for water management and the planning and preliminary design of water resource projects. The maps are available in both hard copy (73 cm x 87 cm) and electronic form.

Sources of data used in this project were the standard discharge data published by Water Survey of Canada (WSC) and climatologic data published by Atmospheric Environment Service (AES) of the federal government. Other sources include BC Hydro and the US Geologic Survey.

2 STREAMFLOW DATASHEETS

The compilation of streamflow data, the period of record used, the procedures for estimating missing data and the formats for presenting the summarized information are described in this section. Annual values are based on a calendar year, rather than a water

year (October - September). Available data were compiled for the 1960 to 1995 period which encompasses the "normal" period, 1961 - 1990.

The criteria used in selecting hydrometric stations for analysis were:

- natural flow (or flow with minor regulation)
- minimum of 12 years substantially complete monthly flow data
- measured instantaneous discharge.

The following streamflow characteristics were compiled:

- monthly flow
- annual flow
- monthly flow variation
- normal annual runoff
- instantaneous peak flow and date of occurrence
- seven-day average low flow.

The standard format of compilation of the streamflow data is shown in Figure 2 for a hydrometric station with complete 1960-1995 data, Figure 3 for a station with data missing during the period and Figure 4 for a station measuring reservoir inflow.

2.1 Annual and Monthly Streamflow

Monthly and annual discharges are shown in the datasheets in m^3/s. The normal value is for the 1961-90 period. Not all stations had a complete monthly record for the 1960 to 1995 period. Where necessary, estimates were made to fill in missing values. If daily flows were missing for a portion of a month, they were estimated by comparison with a nearby similar station. If monthly discharges were missing for infrequent intervals or for continuous periods of 3 to 4 months, they were also estimated by comparison with a nearby station. If insufficient months were available to determine annual discharge, the annual value for each missing year was estimated by correlation with those of one or more nearby stations.

Monthly streamflow values for the normal period in mm (referred to as "runoff" rather than "flow") were obtained by the formula:

$$86.4\ Q\ n\ /\ A$$

where: Q is the normal monthly discharge in m^3/s
n is the number of days in the month
A is the drainage area in km^2.

For the months with missing values in the 1961-90 period monthly normals were computed from the available record during this period. The annual runoff in mm was calculated using the above equation based on the normal annual discharge and the value 365.25 in place of the number of days in the month. This value is always for the 1961-90 period and as a result, the sum of the monthly runoff values does not always add up to

this annual amount. However, an exception was made for short-record hydrometric stations (Section 8).

Annual discharges are summarized in graphical format as "Percent of Normal" to illustrate the annual streamflow variation or the departure from normal for each year. Monthly discharges for the normal period are summarized in graphical format as "Percent of Annual" for each month.

Figure 2 Hydrometric Station Complete Datasheet (Fraser River at Shelley):

This form is for a station with a complete monthly record for the period 1960-95. No estimates had to be made.

Figure 3 Hydrometric Station Partial Datasheet (Greata Creek near the Mouth):

In this case, there are no data available prior to October, 1970, but annual discharge estimates were made by correlating annual values with those of nearby stations. This can be done with some reliability for annual, but not for monthly streamflows due to uneven monthly runoff distributions between different elevation watersheds. The mean monthly streamflow values are normalized using the data available within the 1961-90 period (in this case, 1971 or 72 to 90). The monthly flow variation was plotted using the available data. This variation is not seriously affected by missing data, and is mainly for illustrative purposes.

Figure 4 Reservoir Inflow Datasheet (Nechako Reservoir Inflow):

Reservoir level and outflow data are available for some reservoirs allowing the calculation of inflow amounts on a monthly basis. Although not providing instantaneous peak flow or 7-day low flow data, they do provide reliable monthly and annual flow data. In this case only monthly and annual data are summarized as shown in Figure 4.

2.2 Peak Flow

Annual maximum instantaneous discharges were used for compilation in the datasheets rather than maximum daily discharges. Date of occurrence is included as this indicates the type of peak flow event (rainfall, snowmelt, rain-on-snow). No estimates for missing years were made except for those which had only maximum daily discharge published. In this case the instantaneous peak flow was estimated using a ratio of instantaneous to daily peak flow based on data for other years or other nearby similar stations. The "average" peak flow is presented rather than the "normal" as all available data from 1960 to 1995 are used so as to maximize the sample size for frequency analysis.

Frequency analysis was carried out on these peak flow data. The analysis provided recurrence interval or return period estimates for four flood frequency

distributions. The results for all the stations in a hydrologic zone (41 1995 ministry zones) were reviewed and one distribution which overall provided the best results was selected for the zone. In most cases the best distribution was the log-Pearson type III, however the three parameter log-normal and the Pearson type III were selected in some zones. The criteria of selection was based on comparison of estimates, the graphical fit and the K-S statistic.

The flood frequency data are summarized in the Instantaneous Peak Flow graph which shows the frequency analysis results in terms of return period flows as ratios to the 10-year return period "index" peak flow. The 10-year return period instantaneous peak flow was used as it can be estimated with some reliability with the available data and provides a more stable value for relating to other return periods. It is also assumed to be related to bankfull flow. The 10-year return period peak flow is shown in the datasheets.

2.3 Seven-Day Average Low Flow

Daily discharges were used to compile seven-day average low flows in the datasheets. The periods selected for analysis were June-September and the calendar year. For each period in each year of record of a hydrometric station the minimum value of the seven-day average discharge was computed. Estimates for missing years or for gaps within years were not made, however, the great number of annual records with daily discharge gaps were analysed and a great number of the low flow values were judged to be valid. In these cases the annual hydrograph, when compared with those of several neighbouring representative hydrometric stations, showed that the seven-day average low flow in the record gap would have been higher than the one present within the period analysed. This procedure maximized the sample size for a station for frequency analysis. As for the peak flow portion of the datasheets, long-term averages for the low flows were based on the whole record rather than 1961-90 "normal" within the 1960-95 set.

Drought frequency analysis was carried out for both the June-September and the calendar year data sets. The 10-year recurrence interval low flow is shown in the datasheets. Again, the frequency results of the various distributions were reviewed for the best overall distribution fit in each hydrologic zone (41 1995 ministry zones) and in every zone the log-Pearson type III was selected.

The drought frequency data are summarized in the Annual 7-Day Low Flow graph which shows the frequency analysis results in terms of return period flows as a ratio to the 10-year return period "index" low flow. (The June-September seven-day low flow graph is not shown but is available in the computer file version.)

3 PRECIPITATION DATASHEETS

The compilation of the precipitation data, the period of record used, the procedures for estimation of missing data and the formats for presenting the summarized

information are described in this section. Annual values are based on a calendar year, rather than a water year (October - September). Available data were compiled for the 1960 to 1995 period which encompasses the "normal" period, 1961 - 1990.

The criteria used in selecting climate stations for analysis were:

- recording precipitation gauge with rainfall intensity data
- substantially complete monthly data for the normal period
- 10 years of rainfall intensity data during the normal period.

The following climatic characteristics were compiled:

- monthly precipitation
- annual precipitation
- normal monthly and annual precipitation
- maximum daily precipitation and month of occurrence
- short duration rainfall for 1, 2, 6, 12 and 24 hour periods
- precipitation excess estimated via the Thornthwaite water balance model.

The standard format for the compilation of the precipitation data is shown in Figure 5, Precipitation Station Complete Datasheet (Mission West Abbey), for a climatic station with complete 1960-1995 data and in Figure 6, Precipitation Station Partial Datasheet (McInnes Island), for a station without short-duration rainfall data.

3.1 Annual and Monthly Precipitation

The monthly and annual precipitation data are shown in the datasheets in mm. The normal value is for the 1961-90 period. Not all stations had a complete monthly record for the 1960-95 period. Where necessary, estimates were made to fill in missing values. If daily or monthly precipitation data were missing at sporadic intervals or for continuous periods less than four months, estimates were made by comparison with a nearby station. If insufficient months were available to determine annual precipitation, the annual value for each missing year was estimated by correlation with those of one or more nearby stations.

Monthly "excess" precipitation values were estimated using the Thornthwaite water balance method (Thornthwaite, C.W. and J.R. Mather, *Instructions and Tables for Computing Potential Evapotranspiration and the Water Balance*, 1957) and represent the excess water available for runoff at the location of the climate station. The annual total excess precipitation was used with the values from other climate stations and runoff from hydrometric stations to define normal annual runoff on a regional basis (see Section 4).

Annual precipitation data are summarized in graphical format as "Percent of Normal" to illustrate annual precipitation variation or the departure from normal for each

year. Monthly precipitations for the normal period are summarized in graphical format as "Percent of Annual" for each month.

3.2 Maximum Daily Precipitation

Annual maximum daily precipitations in mm and the months of occurrence are tabulated in the datasheets, along with the averages for the period of record. Frequency analysis was carried out on these data and the results from the Gumbel distribution (the AES standard) were used to obtain the 10-year recurrence interval estimates. The graph of annual maximum daily precipitation with return period is included in the computer file version of the datasheets (an example graph is shown on Figure 6).

3.3 Short Duration Rainfall

Rainfall intensity data in mm were tabulated in the datasheets for five standard durations (24, 12, 6, 2 and 1 hour) for each year of the available period of record. Estimates for missing years were not made. The "average" values are presented rather than "normal" as all available data from 1960 to 1995 are used so as to maximize the sample size for frequency analysis.

Frequency analysis was carried out on these rainfall intensity data and the results from the Gumbel distribution were used to obtain the 10-year recurrence interval estimates. The results of the frequency analysis were summarized in the Short Duration Rainfall graph. For each standard duration, the rainfall amounts for six standard return periods (2, 5, 10, 25, 50 and 100 years) were plotted as a ratios to the 10-year return period "index" rainfall.

3.4 Rational 10-Year Peak Flow

Peak flow was estimated using the rainfall intensity-duration-frequency results in the rational method and is shown in the graph of the precipitation datasheets. In this procedure the B.C. Rational Formula method for estimating instantaneous peak flows for small watersheds (<25 km^2) was used. The method is described in Section 7.5 of the *Manual of Operational Hydrology in British Columbia*. The graph gives estimates of 10-year return period peak flows for forested watersheds (100-year return period graphs are also available in the computer file version of the datasheets). Estimates for various sloped watersheds are shown, for steep to intermediate, moderate to rolling and flat. These estimates of instantaneous peak flow were used in conjunction with the estimates derived from hydrometric stations to enhance the data base available for peak flow mapping. To determine peak flows for return periods other than 10 years the ratios from the graph described in Section 3.3 can be used.

4 MAPPING

Selected data from the datasheets were mapped for the purpose of estimating hydrologic characteristics for ungauged watersheds. The following characteristics were mapped in the form of overlays on 1:600,000 scale landform maps:

gauged watershed outline
precipitation station location
normal annual runoff in mm
10-year peak (instantaneous) flow for a 100 km^2 watershed
100-year peak (instantaneous) flow for a 100 km^2 watershed.

The runoff and peak flow values for individual stations were labeled on the appropriate overlays and isolines were interpolated and drawn between these values using the general topography shown on the landform map as a guide. The 1:600,000 scale maps were digitized and incorporated to the ministry's TRIM data base.

4.1 Annual Runoff

Annual runoff values from the datasheets were plotted on map overlays directly. The values extracted were normal annual runoff (mm) from the streamflow and reservoir datasheets and excess precipitation from the precipitation datasheets. Isolines for the province were drawn for the following annual amounts in mm:

50, 100, 200, 500, 1000, 2000, 3000, 4000.

Estimates for ungauged watersheds can be interpolated directly from the isoplets on the map. Monthly distribution can be estimated from the datasheet for a nearby hydrometric station.

4.2 Peak Flow

Peak (instantaneous) flow values in m^3/s for a 10-year recurrence interval were normalized for a 100 km^2 watershed. These values were plotted at the watershed centroid and isolines were mapped. The values were calculated by adjusting the 10-year values as shown on the datasheets by the formula:

$$Q\ (100 / A)^{0.785}$$

The "slope" value of 0.785 is a constant for the whole province and was determined by plotting and comparing peak flow against drainage area for each hydrologic zone (41 1995 ministry zones). Isolines for the province were drawn for the following amounts in m^3/s:

5, 10, 20, 30, 40, 50, 100, 200, 300, 400, 500.

Estimates of 10-year peak flow for a 100 km^2 watershed can be interpolated directly from the 10-year peak flow map. To convert this estimate to an estimate for a different size watershed, the following formula can be used:

$$Q(\text{for } 100\ km^2) * (A / 100)^{0.785}$$

The 10-year peak flow estimate for the watershed can be converted to another recurrence interval by using the frequency ratio graph shown on the datasheet for one or more nearby hydrometric stations.

Peak (instantaneous) flow values in m^3/s for a 100-year recurrence interval for a 100 km^2 watershed using the formula shown above were also plotted and isolines were mapped. The "slope" value was reviewed for each hydrologic zone (41 1995 ministry zones) but no change was found necessary. Estimates for the 100 year peak flow for a 100 km^2 watershed can be interpolated directly from the 100-year map and values for watersheds of other drainage sizes can be determined from the second formula above.

The application of the peak flow maps to estimate peak flows at ungauged watersheds for sizes and flood frequencies other than those mapped (10- and 100-years) may produce different estimates for the same watershed. This result occurs because of unexplained variation and because different zones were not always based on the same flood frequency distributions. The distributions chosen were the same within each zone but the same distribution often produced different frequency slopes within a single zone. When applying the peak flow maps this problem can be minimized by applying the frequency map that is closest to frequency in question of the problem basin.

5 LOW FLOW REGIONALIZATION

The regional analysis of low flow indicated that a mapping approach, as was done for normal runoff and peak flow with simple large scale variation, was not found adequate. Instead, the low flow was regionalized using procedures developed in earlier studies done in the Section. In this procedure low flows (m^3/s) are plotted against drainage area (km^2) on log-log graph paper and regional curves are drawn to represent low flow zones. It was generally found that such zones are much larger, covering larger drainage areas, than runoff zones and are best represented by a series of asymptotic curves that converge from wide sections at small drainages to a narrow section in the graph at very large drainage areas. This curvature effect demonstrates the scale effects of both drainage area and regional low flow variation.

For this project inventory graphs of 10-year recurrence interval seven-day low flow for each station were plotted against drainage area for each of the preliminary 41 hydrologic zones. The plots were analysed and regrouped to define larger low flow zones; these are shown in Figure 7. The graphs are shown in Figures 8 and 9. These graphs can be used for estimating 10-year low flows for ungauged watersheds by defining their areas and identifying the appropriate zone. To determine low flows for other recurrence intervals, the graph for one or more nearby watersheds, as shown on their datasheets, can be used.

6 HYDROLOGIC ZONES

The practice of the application of regional procedures and techniques in hydrology for estimating characteristics at unmeasured sites has shown that the most practical approach involves the use of hydrologic zones. A hydrologic zone is defined as an area were hydrologic characteristics are homogeneous and data collected in the region can be extrapolated to estimate characteristics at ungaged sites. A hydrologic zone can be defined on a map using two basic procedures, a mapping study of physiographic and hydrologic features, and a statistical evaluation and comparison of a large number of data within a zone. Due to the paucity of data and the practical experience in the Water Inventory Section with regionalization the mapping procedure was chosen in this project. The procedure employed mapped hydrologic characteristics and geomorphologic features, statistical graphical plots and previous zone definitions.

The focus of hydrologic zone definition in this study was streamflow and its associated causes. Most recent work (41 1995 ministry hydrologic zones used in data workup in this project) was based on a meeting of a group of hydrologists that defined the zone boundaries based on subjective judgement and data-based maps, including ecoregions and biogeoclimatic zones. The 29 Ingledow hydrologic zones were defined with zone boundaries following drainage boundaries to facilitate network planning and ease of application to set drainages. However, hydrologic zone boundaries do not necessarily follow drainage boundaries and the procedure adapted on this study used a large degree of smoothing in zone boundary definition. Along with the regionalized maps produced in this study, the following information sources were used in defining hydrologic zones:

T. Ingledow and Associates Limited, *British Columbia Hydrometric Network Study*, April 1969

Danard, Maurice, *Reports 15 to 25, prepared for Water Investigations Branch, Water Resources Service, Province of British Columbia*, 1975-80

Farley, A. L., *Atlas of British Columbia*, 1979

British Columbia Natural Resources Conference. *British Columbia Atlas of Resources*, 1956

Fisheries and Environment Canada, *Hydrological Atlas of Canada*, 1978

British Columbia Environment, *Groundwater Resources of British Columbia*, 1993.

The procedure used in this study in defining hydrologic zone boundaries followed a series of steps that included mapping physical and hydrological features. Map overlays on top of the 1:600,000 scale work maps (with outlined watersheds) used earlier to map streamflow isolines were used to plot boundaries of geologic (including soils and permeability), groundwater (including aquifers), physiographic and precipitation zones and the Ingledow hydrologic zones. The low flow zone boundaries (Section 5) were found to be in basic agreement with the physical feature boundaries and were used to define broad preliminary zones. The precipitation and Ingledow hydrologic zone boundaries were then used to subdivide and refine the large preliminary zone boundaries. Regionalized streamflow maps produced in this study were used to make further checks

and refinements to the boundaries. The final outcome was a provincial map of 17 hydrologic zones. However, three zones had one of their streamflow characteristics subregionally defined. (Zone 9 was split into 9A and 9B to distinguish annual runoff, Zone 12 , into 12A and 12B to distinguish peak flows and Zone 16, into 16A and 16B to distinguish low flows). Most of these zones are larger in area than the 29 Ingledow and 41 ministry referenced zones but further refinement/subdivision to explain local streamflow variation cannot realistically be made at this time without a substantial graphical/statistical analysis of the data within each zone. In the sections below a description is given of each hydrololgic zone. The zones are grouped in the larger low flow zones of Figure 7 and are shown individually in Figure 1.

6.1 Coast Mountains Low Flow Zone

Zone 8: Skeena-Nass Basin

The Skeena-Nass Basin is the northern most of three transition zones between the Coast Mountains and Interior Plateau. It extends along the lee side of the Coast range from the Stikine in the north, to Morice Lake in the south. The eastern boundary is defined by the Coast low flow boundary. The western boundary stays to the east of the Coast Mountains spine, keeping most of the glaciers in the Coastal Mountains Zone. Precipitation is higher in the south due to the lower altitude of the Coast Mountains in that area but is lower in the north as the Boundary Range intercepts much of the moisture.

Zone 9: Coastal Mountains

The Coastal Mountains region extends for the entire length of the province, from the Yukon border to the Lower Mainland. The northern Sub-Zone 9A (Northern Coastal Mountains) is characterized by extremely rugged mountains with extensive permanent snowfields and glaciers. The southern Sub-Zone 9B (Southern Coastal Mountains) is characterized by steep slopes capped by permanent glaciers, but not as extensive as the northern region and produces significantly less annual runoff than Sub-Zone 9A. Precipitation is high along the entire coast with the moist maritime air forced to rise over the range as it heads west. The coast is broken by many fjords and channels formed during glacial periods. The high elevations of the mountains at the southern and northern ends of the range still contain many glaciers today. Although most of the precipitation falls as rain at the lower altitudes, the presence of many large icefields and snowpacks at higher elevations, have an impact on hydrographs with spring freshets. The mountains were formed from granitic intrusions, and the rocks exposed by repeated periods of glacial erosion. Much of the range remains unfractured, keeping groundwater to a minimum, except in valley bottoms where previous glacial periods deposited large amounts of sediment.

Zone 10: Queen Charlotte Islands

The Queen Charlottes form the northern extension of the Insular Mountains that extend to California. This region experiences heavy precipitation, particularly on the western side of the islands due to moist maritime air beginning its rise to pass over the Coast Mountains. Low elevations mean that most of the winter precipitation is in the form of rain, creating hydrographs that are in phase with the precipitation. The island mountains are composed of sedimentary rocks with poor drainage on the eastern coast. Thus, much of this area of the Queen Charlottes has saturated ground and shallow aquifers.

Zone 11: Eastern Coastal Mountains

The central of the three Coastal transition zones, the Eastern Coastal Mountains zone has a western boundary that roughly follows the spine of the Coastal Mountains from the Nanika River, just north of the Nechako reservoir, to Taseko Lake, 100 km west of Lillooet. To the east the zone is defined by the low flow boundary between the Coastal and Interior zones, which falls roughly along the base of the Coast foothills. Precipitation is higher in the western parts of the zone, where the zone is more exposed to the maritime conditions. Many of the streams in the western section of the zone are influenced by the glaciers of the coast mountains, but this influence diminishes as the range descends in the northern part of the zone.

Zone 17: Vancouver Island

The Vancouver Island zone includes all of the island except for the east coast area, that is part of the Georgia Depression. The region has a very moderate climate with heavy precipitation during the winter months. The climate of this zone is similar to that of the Coast Mountains, but due to the low altitude and maritime influence of the zone, most of this precipitation falls in the form of rain. Hydrographs of this region are in phase with precipitation due to the minimal influence of snowpack on the hydrologic regime. The zone is part of the Insular Mountains that extend from California to the Queen Charlottes. The geology of the range is largely sedimentary limestones and sandstones, that combined with extensive faulting through the island, allow for good permeability of groundwater.

6.2 Georgia Basin Low Flow Zone

Zone 16: Georgia Basin

The Georgia Basin zone is sandwiched between the Coast and Cascade mountains to the east and Insular Mountains to the west, with a depression that consists of the low lying shores of the lower mainland area and the east coast of Vancouver Island. The northern limit of the zone is Campbell River on Vancouver Island, extending southward to Metchosin, also on Vancouver Island. The zone has a Mediterranean type of climate

with wet, mild winters, and dry summers. It is the rainshadow provided by the Insular range that creates the dry climate of the zone. Hydrographs of the region are in phase with precipitation, with no available snowpacks in this low lying region, with the exception of a few streams fed by the southern end of the Coast Mountains. The surficial geology of much of the zone consists of deposition sediments overlaying granitic intrusions. Bedrock fracturing and faulting through the zone creates the aquifers of the Gulf Islands. Groundwater is a major source of water on these islands.

For the consideration of low flow, two subzones were defined. Zone 16A (Upper Georgia Basin) is the region that covers Eastern Vancouver Island, the Gulf Islands, and the Lower Mainland west of Langley. Whereas the subzone 16B (Lower Fraser Valley covers the region from Langley to just east of Chilliwack.

6.3 South Interior Low Flow Zone

Zone 12: Southern Interior

The Southern Interior zone is distinguished by the Southern Interior Low Flow Zone but is divided into two subzones, 12A and 12B, for interpretation of other streamflow characteristics. Precipitation in this zone is fairly consistent, except in the southern Hydrologic Zone 12B where a series of ridges alters the rainfall patterns and produce higher regional peak flows over a greater area than in Zone 12A. The zone is the driest in the province, with near desert conditions in some parts. On the plateaus of the northern Hydrologic Zone 12A, the dry climate and soil types create a hardpan over the surface, making the area less permeable to the available precipitation. The Fraser basin aquifer is in the northeast corner of the zone 12A where the groundwater resources produce abundant water supplies. In zone 12B there is a wide variety of rock types with different permeabilities scattered throughout the zone. South of Kamloops, mountains form a series of aquifers that run along the valley bottoms generally in a north-south direction.

Zone 15: Northern Cascade Mountains

The Northern Cascade Mountains zone is the southernmost of the transition zones and lies in the northern Cascade Mountains between the Coast Mountains and the Fraser Plateau. Most of the zone lies in the Fraser catchment area from just east of Taseko Lake to the Stein River near Lytton. Being a transition zone, its conditions change markedly in space with precipitation decreasing from the southwestern side of the zone to the northeastern side. The zone lies within the Coast Mountains intrusions which minimize the availability of groundwater. This zone lies wholly within the South Interior Low Flow Zone.

6.4 North Interior Low Flow Zone

Zone 1: St. Elias Mountains

The St. Elias Mountains zone in northwestern British Columbia contains some of the highest mountains in the province. The uplift that these mountains cause leads to high precipitation on windward slopes, and very dry air descending on the leeward sides. Due to both the high altitude and latitude of the region, much of the precipitation falls in the form of snow. Glaciers dominate the hydrology of many of the streams throughout the zone.

Zone 2: Yukon Plateau

Sheltered by the Coast and St.Elias mountains, this region experiences very little precipitation. Unlike the transition zones to the south, the Yukon Plateau makes a very homogeneous unit, with similar precipitation, geology, and terrain throughout the zone. The terrain is mostly flat, in a series of broad valleys or plateaus. The rock of the zone is a mix of fractured lavas and sedimentary rock, creating a moderately permeable zone.

Zone 3: Cassiar Mountains

The Cassiar Mountains zone has boundary that follows the edge of the Cassiar Mountains, which also coincides with the geological boundary of the zone. The geology of the zone is similar to that of the Coast Mountains, being formed mostly through granitic intrusions, leaving the bedrock with very little capacity for groundwater. Precipitation increases marginally in this area compared to the Yukon Plateau to the west, due to the uplift of the air passing over the mountains.

Zone 4: Liard Basin

The Liard Basin zone is bounded to the west and south by the Cassiar and Rocky mountains, and to the East by the Liard River. The western part of the zone is the flat Liard Plains; the eastern part is made of the fading Rocky Mountains or Liard Plateau. Precipitation is consistent throughout the zone, and similar to that of the Great Plains to the east. Permeability is better in the western part of the zone; the eastern part of the zone contains the shales of the plains.

Zone 6: Northern Rocky Mountains

To the west, the Northern Rocky Mountains zone is bounded by the Rocky Mountain Trench, and to the east by the western edge of the Great Plains. Unlike the Rockies to the south, these mountains are not in the rainshadow of another range to the west, with this resulting in higher precipitation relative to surrounding zones. The geology is made of sedimentary rocks, similar to the Great Plains to the east, but the orogeny that formed the mountains also faulted and tilted the strata, creating a more permeable region than the plains.

Zone 7: North Central Interior

The North Central Interior zone consists of a series of ranges running mostly in a northwest-southeast axis. The ranges' southern extent is just north of the 54th parallel, along the boundary between the Northern and Southern Interior Low Flow Zones, and the western boundary is the Low Flow boundary between the Coast and Interior. To the north, the zone is bounded by the Cassiar Mountains and the Yukon Plateau, and to the east by the Rocky Mountain Trench. Precipitation is moderate throughout the zone. Permeability is fairly good throughout the zone due to the mainly sedimentary and fractured nature of the bedrock.

6.5 Southeast Mountains Low Flow Zone

Zone 13: Columbia Mountains

Bounded by the Rocky Mountain Low Flow Zone to the west, and the Columbia Mountains ridge to the east, the Columbia Mountains zone extends from the US border to the Bowron Lakes. After descending through the Interior system, air is again forced to rise to cross this range, increasing precipitation within the zone. Permeability is variable throughout the zone, with mountains built from intrusions and contact metamorphism, and valleys laid with glacial deposits with better capacity to store groundwater.

Zone 14: Rocky Mountain Trench

The Rocky Mountain Trench zone includes the eastern lee slopes of the Columbia Mountains, the Rocky Mountain Trench south of Mackenzie, and the western slopes of the Rocky Mountains. Precipitation is dependent on altitude within this zone, with little precipitation in the bottom of the rocky Mountain Trench, and higher amounts of rain along the mountains that border the trench. Permeability is good, with the heavily fractured and tilted sedimentary formations of the Rocky Mountains.

6.6 Northeast Plains Low Flow Zone

Zone 5: Northeast Plains

The most distinctive in the province, the Northeast Plains zone is part of the Great Plains that make up most of the Prairies and US Midwest. The zone lies in the rainshadow of the Rocky Mountains, keeping the zone relatively dry. The continental air masses that dominate the region make for cold winters; yet the warm summers create uplift for convective storms that lead to the precipitation maximums during the summer months. The geology of the region also differs greatly from the rest of the province. The flat land of the zone contrasts with the mountains and hills that dominate the rest of the province. The bedrock is sedimentary, but unlike other locations in the province that

are of sedimentary origin, the Great Plains zone has not been tilted or faulted, leaving large slabs of shale that do not allow for much permeation into lower strata. There are three groundwater sources in the region, a shallow aquifer in the unconsolidated sediments laid during glaciation, a confined aquifer below the shale, and a bedrock aquifer.

7 WATERSHED SUMMARY TABLE

A summary of all watershed characteristics and hydrologic data compiled in the datasheets is listed in the Table 1, Watershed Summary Table. This summary lists for every station used the hydrologic zone, station name, station number, drainage area and median basin elevation, where available, plus the following parameters derived from the data:

normal annual runoff in mm
monthly distribution of normal runoff in %
10-year peak (instantaneous) flow for the watershed in m^3/s
10-year peak (instantaneous) flow for a 100 km^2 watershed in m^3/s
ratio of 100-year to 10-year peak flow
10-year seven-day low flow for the June-September period in m^3/s
10-year seven-day low flow for the calendar year in m^3/s.

For climate stations which were used to estimate peak flow, the station name as shown in the Summary Table includes a code for the watershed slope that was used to determine the peak flow parameters, as defined below:

s - steep
i - intermediate
m - moderate
r - rolling
f - flat.

For further definition of the slopes and for the B.C. Rational Formula method used in datasheet compilation, reference should be made to *Manual of Operational Hydrology in British Columbia*.

8 SHORT-RECORD STATIONS

A number of streamflow stations with short records were added to the set of datasheets and the Summary Table (noted with an asterisk). These stations, with a length of record between eight and 12 years within the 1960-95 period, were added to complement the data set but were not included in regionalizations. Estimation of missing monthly flows was done in the same manner as for the other stations but missing annual flows were not estimated. Instead, the normal was estimated by comparing the station's short-term record with the normal of a nearby station. Monthly averages are based on the full record in the 1960-95 period. Frequency analysis of instantaneous peak flows was carried out on all available peak flows including any recorded prior to 1960. Some

of the short-term stations were added in the final stages of compilation and were not plotted on the 1:600,000 scale working maps.

The short-term stations, listed in Table 2, were used to demonstrate the application of the regionalized information of this project. In these examples the watersheds were outlined, as shown, on the 1:2,000,000 scale maps and streamflow characteristics were interpolated and averaged for each problem basin. These estimated map values were then compared with observed values with a percent difference. (The peak flow 100 km^2 map estimates were converted to the actual drainage area by use of the formula in Section 4). Note that the low flow difference for Joe Ross Creek is large (one order of magnitude) but the value is small. Large differences in small low flow estimates are expected due to the nature of that level of flow; for example, a highly permeable streambed can totally obscure a small quantity flow. This exercise was not meant to be a test of accuracy of regionalized information as annual runoff, peak flow and low flow are not well defined with short records.

9 REPORT DOCUMENTS

This report refers to a number of documents that are not included in the text but are published under separate cover. The datasheets are available in both hard copy and electronic form. The 1:600,000 scale work maps of watersheds, isoplets and hydrologic zone boundaries were digitized and added to the ministry's GIS database. The maps at this scale (or any other scale) can be accessed with appropriate GIS software. For the purposes of this report, maps showing the isoplets have been produced at the scale of 1:2,000,000 and are available in both hard copy and electronic form. Table 3 lists the available documents as result of this project and this form (or a copy) many be sent, as directed, to obtain these. (Note that 100 hard copy datasheets, of the recipient's choice, accompany this report and must be ordered separately.)

Zone No.	Station Name	Station Number	Drainage Area	Median Elevation	Normal Annual Runoff		Monthly Distribution (%)												10 - Year Peak Flow		Ratio 100-Yr:10-Yr Peak Flow	10 - Year 7-Day Low Flow	
							Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	for D.A.	for 100 km²		Jun-Sep	Annual
			(km²)	(m)	(mm)	(m³/s)													(m³/s)	(m³/s)		(m³/s)	(m³/s)
1	Alsek	8AB001	16200		433	222.3	1	1	1	2	6	15	28	25	12	5	2	2	1318	24	1.325	129	22.4
1	Dezadeash	8AA003	8500		162	43.6	3	3	3	4	9	20	18	13	10	8	5	4	376	11	2.291	34.0	8.83
1	Fantail	9AA014	711	1510	977	22.0	1	1	1	1	6	20	27	23	12	6	2	1	155	33	1.509	11.8	0.835
1	Linderman	9AA010	250	1100	1269	10.1	1	1	1	1	9	25	24	17	11	7	3	1	96.3	47	2.683	5.01	0.435
1	Skagway	15056100	376		1436	17.1	1	0	0	1	7	20	25	18	11	7	2	1	297	105	1.939	5.99	0.259
1	Takhanne	8AC001	365		372	4.3	2	1	1	2	12	28	23	12	9	7	3	2	48.8	18	1.215	2.38	0.557
1	Takhini	9AC001	6990		284	62.9	2	1	1	1	3	14	25	22	14	9	5	3	279	10	1.193	29.6	7.33
1	Tatshenshini *	8AC002	1750		518	28.7	2	2	2	2	13	24	21	14	10	7	3	2	278	29	1.342	13.7	2.52
1	Wann	9AA015	277	1460	809	7.1	2	1	1	1	4	22	27	21	11	6	3	2	48.4	22	1.336	3.70	0.562
1	Wheaton	9AA012	875		292	8.1	2	1	1	2	6	25	25	15	10	6	3	2	74.7	14	1.248	5.11	0.775
2	Atlin	9AA006	6810	674	450	97.1	5	4	3	3	3	6	12	18	18	14	9	7	287	10	1.165	38.0	24.1
2	Atlin precip (f)	1200560	25		80	0.1	0	0	0	100	0	0	0	0	0	0	0	0	14.6	43	1.438	na	na
2	Dease - lake	10AC003	1540	1200	321	15.7	3	2	2	2	12	31	16	9	8	8	5	3	144.1	17	1.551	7.08	2.18
2	Dease Lake precip (r)	1192340	25	816	77	0.1	0	0	0	100	0	0	0	0	0	0	0	0	6.8	20	1.529	na	na
2	Gladys	9AE004	1910	1250	245	14.8	3	2	2	2	5	25	22	12	9	8	5	4	85.6	8	1.320	9.60	2.77
2	Lubbock	9AA007	1770		76	4.3	7	5	6	6	15	14	9	7	7	9	8	7	15.93	2	1.395	1.34	1.15
2	M'Clintock	9AB008	1700		180	9.7	3	2	3	3	15	24	14	10	9	8	5	4	82	9	1.469	5.50	2.00
2	Teslin	9AE001	30300		320	307.2	3	2	2	2	7	24	21	12	9	9	6	4	1506	17	1.268	221	54.3
2	Tutshi	9AA013	958	1260	541	16.4	2	2	2	1	5	23	24	15	10	8	5	3	88	15	1.289	12.1	2.30
2	Tuya	8CD001	3590		329	37.4	2	1	1	2	24	33	11	6	7	7	3	2	560	34	1.430	10.7	3.81
3	Blue	10AC004	1700	1260	345	18.6	2	2	2	2	9	27	[illegible]	11	9	8	4	3	197	21	1.594	12.1	1.94
3	Cassiar precip (f)	1191440	25	1078	383	0.3	1	0	0	1	94	0	[illegible]	0	0	3	1	0	19.2	57	1.458	na	na
3	Cottonwood	10AC005	888		667	18.8	1	1	1	1	11	32	18	9	9	8	3	2	196	35	1.305	8.57	1.30
3	Dease - McDame	10AC002	6940		472	103.8	2	1	1	1	12	31	18	9	9	8	4	3	847	30	1.272	51.1	12.6
3	Dease - mouth	10AC006	14500		397	182.4	2	2	2	2	13	29	19	9	8	9	4	3	1338	27	1.261	98.4	25.9
3	Rancheria	10AA004	5100		301	48.6	3	2	2	2	12	33	24	10	8	7	5	3	572	26	1.799	31.3	5.30
3	Swift	9AE003	3320	1320	453	47.7	2	2	2	2	11	30	18	10	9	9	4	3	367	23	1.369	28.5	6.57
3	Tumagain	10BA001	6580	1410	425	88.6	2	1	1	2	10	29	19	11	10	8	4	2	745	28	1.239	53.3	8.22
4	Beaver	10BD001	7280		296	68.3	2	2	2	4	22	14	14	10	7	6	3	3	792	27	1.401	27.8	10.2
4	Coal	10BC001	9210		332	96.9	2	2	2	2	20	27	16	10	8	6	3	2	1052	30	1.286	53.1	16.6
4	Frances	10AB001	12800		393	159.4	2	1	1	1	9	29	20	12	9	7	4	2	960	21	1.338	104	17.4
4	Geddes	10BE008	77.6	723	86	0.2	5	4	5	8	14	10	13	8	8	8	6	6	1.518	2	1.675	0.067	0.051
4	Grayling	10BE011	1780		286	16.1	1	1	1	3	24	23	18	8	8	5	3	2	385	40	1.781	2.76	1.04
4	Hyland	10AD001	9450		454	136.0	2	1	1	1	12	32	21	11	8	6	3	2	1136	32	1.540	82.1	12.3
4	Kechika - mouth	10BB001	22700		343	246.7	2	2	2	2	9	25	21	13	10	7	4	2	1645	23	1.222	180	33.4
4	Liard - Beaver	10BE005	119000		378	1425.4	2	2	2	2	12	26	19	12	9	7	4	3	8726	34	1.153	970	201
4	Liard - Kechika	10BE006	61600		367	716.4	2	2	2	2	12	28	19	10	8	7	4	3	4672	30	1.248	470	95.7
4	Liard - lower X	10BE001	104000		352	1160.0	2	2	2	2	12	28	19	11	9	7	4	3	7403	32	1.224	818	158
4	Liard - upper X	10AA001	33400		357	377.8	2	2	2	2	12	29	19	10	9	7	4	3	2762	29	1.325	240	52.7
4	Smith	10BE013	3740		219	26.0	5	4	5	6	11	13	13	10	8	8	6	5	95.8	6	1.823	17.4	7.88
4	Teeter	10BE009	210	1040	208	1.4	4	4	4	5	12	14	14	11	9	9	6	6	6.56	4	1.531	0.795	0.321
4	Tom	10AA002	435		230	3.2	1	1	1	2	24	21	16	7	6	6	3	2	34.5	11	1.366	1.08	0.189
4	Watson Lake A (r)	2101200	25	690	85	0.1	0	0	0	0	100	0	0	0	0	0	0	0	7.7	23	1.584	na	na

* Short Record Station

Precipitation Station has an arbitrary drainage area of 25 km²

s - steep, i - intermediate, m - moderate, r - rolling, f - flat

Table 1 Watershed Summary Table

Zone No.	Station Name	Number	Drainage Area	Median Elevation	Normal Annual Runoff		Monthly Distribution (%)												10 - Year Peak Flow		Ratio 100-Yr:10-Yr	10 - Year 7-Day Low Flow	
							Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	for D.A.	for 100 km²	Peak Flow	Jun-Sep	Annual
			(km²)	(m)	(mm)	(m³/s)													(m³/s)	(m³/s)		(m³/s)	(m³/s)
5	Adsett	10CD005	109	703	223	0.8	0	0	0	4	36	20	19	23	11	4	1	0	61.4	57	3.813	0.043	0.000
5	Alces	7FD004	298		89	0.8	0	0	1	12	36	21	13	5	5	5	1	0	20.42	9	2.692	0.000481	0.0028
5	Beatton	7FC001	15600		110	54.4	0	0	0	12	34	18	15	10	5	3	1	0	1374	26	1.647	2.58	0.134
5	Beaverlodge	7GD001	1610		56	2.9	0	0	5	31	25	15	8	5	1	2	1	1	85.8	10	2.012	0.001	0
5	Beaverlodge precip (r)	3070560	25	745	35	0.0	0	0	0	100	0	0	0	0	0	0	0	0	13.2	39	1.644	na	na
5	Birch	10ED003	542		147	2.5	0	0	0	7	41	10	12	9	6	5	1	0	105.4	28	3.762	0.018	0.001
5	Blueberry	7FC003	1750		102	5.7	0	0	0	16	36	17	12	8	4	2	0	0	373	39	2.479	0.016	0.006
5	Bougie	10C?004	331	735	232	2.4	0	0	0	4	43	20	17	15	7	3	1	0	171	67	3.926	0.019	0.000
5	Chinchaga	7OC001	10400		86	28.3	0	0	0	11	41	20	14	7	5	3	1	0	657	17	1.406	1.76	0.030
5	Clear	7FD009	2880		62	5.7	0	0	0	31	38	13	9	4	2	2	1	0	203.5	15	2.315	0.013	0
5	Fort Nelson	10CC002	22800	677	162	117.0	1	1	1	5	24	22	19	12	8	5	2	1	2187	31	1.691	28.9	4.16
5	Ft Nelson A (r)	1192940	25	382	41	0.0	0	0	0	100	0	0	0	0	0	0	0	0	10.2	30	1.549	na	na
5	Ft St John A (f)	1183000	25	695	35	0.0	0	0	0	100	0	0	0	0	0	0	0	0	6.3	19	1.435	na	na
5	Halfway	7FA003	9350		259	76.7	1	1	1	4	17	26	20	12	7	6	3	2	1543	44	2.105	24	5.63
5	Hay	7OB003	36900		66	77.2	0	0	0	4	26	23	18	11	9	7	1	1	717	7	1.233	5.74	na
5	Kiskatinaw	7FD001	3658	920	97	11.2	1	1	1	12	31	21	13	7	4	5	2	1	402	24	2.069	0.22	0.043
5	Liard - Ft Liard	10ED001	222000		283	1990.8	2	1	1	2	15	25	19	12	9	7	3	2	13017	31	1.272	1350	213
5	Muskeg - Alberta	7GA002	706		282	6.3	2	1	1	4	17	21	16	12	8	6	3	2	123.7	27	3.474	1.96	0.538
5	Pouce Coupe	7FD007	2850		90	8.1	0	0	1	24	32	20	12	6	2	2	1	0	302	22	1.545	0.097	0.018
5	Prophet *	10CD006	7320		321	74.4	1	1	1	3	16	26	24	15	6	4	2	1	1426	49	1.270	26.6	2.67
5	Raspberry	10CD003	273	533	132	1.1	0	0	0	2	44	17	13	8	8	4	1	0	55.7	25	2.755	0.002	0.000
5	Smoky	7GJ001	50300		226	360.2	1	1	1	8	20	24	17	11	7	5	2	1	5723	43	2.510	105	22.6
5	Sousa	7OA001	819		62	1.6	0	0	0	10	41	26	13	8	5	3	1	0	43.5	8	1.932	0.003	0.000
6	Akle	7EA007	1700		582	31.4	1	1	1	2	15	29	21	13	9	6	3	2	357	39	1.704	14.9	2.98
6	Chetwynd A (r)	1181508	25	609	28	0.0	0	0	0	100	0	0	0	0	0	0	0	0	10.2	30	1.569	na	na
6	Cutbank	7GB001	844		233	6.2	1	1		9	22	19	15	10	7	5	2	1	411	77	2.956	0.815	na
6	Dickebusch	7FB004	82.2	1050	294	0.8	0	0	0	6	24	21	12	10	4	3	1	1	60.8	71	3.815	0.045	0.001
6	Flatbed	7FB009	479	1130	325	4.9	1	1	1	6	24	20	12	9	5	4	2	1	113.6	33	2.764	0.106	0.068
6	Graham	7FA005	2200		369	25.7	2	1	2	2	15	29	19	10	7	6	3	2	305	27	1.977	9.21	3.67
6	Halfway - Graham	7FA006	3780		306	36.7	1	1	1	3	14	27	19	11	8	6	3	2	729	42	1.528	11.3	2.88
6	Kechika - Boya	10BB002	11200		402	142.7	2	1	2	2	9	25	22	14	10	7	4	2	849	21	1.186	101	19.1
6	Kwadacha	7EA002	2410		667	50.9	1	1	1	2	10	26	23	15	9	6	3	2	358	29	1.455	28.4	4.40
6	Moberly	7FB008	1520		280	13.5	2	1	1	3	20	34	17	8	3	5	3	2	114.3	13	1.577	1.01	0.533
6	Murray - mouth	7FB002	5620		536	95.5	2	1	1	4	19	25	14	7	6	6	4	2	850	36	1.338	21.4	8.42
6	Murray - Wolverine	7FB006	2410		803	61.3	2	1	1	3	19	26	14	7	6	6	4	2	573	47	1.909	14.2	5.9
6	Muskwa	10CD001	20300	992	341	219.4	1	1	1	3	14	23	24	15	10	5	2	1	3658	56	1.316	105	9.6
6	Ospika	7EB002	2220		573	40.3	2	1	1	2	18	31	18	9	7	6	3	2	652	57	3.142	14.0	3.75
6	Parsnip	7EE007	4900		942	146.3	2	1	2	6	26	26	11	5	6	8	5	3	1100	52	1.239	27.6	14.7
6	Pine	7FB001	12100		516	197.8	2	1	2	4	24	29	14	7	5	6	4	2	2947	68	2.124	47.7	17.7
6	Quality	7FB005	36.8	1100	211	0.2	1	1	1	8	20	17	16	8	5	4	2	1	9.79	21	4.014	0.007	0.002
6	Rabbit - mouth	10BE012	3780		301	36.1	2	2	2	2	12	24	25	15	12	9	4	3	416	24	1.461	22.2	3.87
6	Rabbit No 7	10ED006	92.7		178	0.5	0	0	0	4	42	11	11	4	4	3	1	0	18.44	20	2.421	0.001	0.001
6	Sikanni Chief	10CB001	2160	1410	375	25.7	2	1	1	2	12	26	22	13	9	6	3	2	399	36	2.073	12.0	2.13
6	Sukunka	7FB003	2510		748	59.5	1	1	1	5	26	25	11	4	5	6	5	2	688	55	1.482	6.16	4.03

* Short Record Station

Precipitation Station has an arbitrary drainage area of 25 km²

s - steep, l - intermediate, m - moderate, r - rolling, f - flat

Table 1 Watershed Summary Table

Zone No.	Name	Station Number	Drainage Area	Median Elevation	Normal Annual Runoff		Monthly Distribution (%)												10 - Year Peak Flow		Ratio 100-Yr:10-Yr	10 - Year 7-Day Low Flow	
							Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	for D.A.	for 100 km²	Peak Flow	Jun-Sep	Annual
			(km²)	(m)	(mm)	(m³/s)													(m³/s)	(m³/s)		(m³/s)	(m³/s)
6	Toad - mouth	108E010	6900	1590	466	101.9	2	1	1	2	8	24	27	19	12	8	3	2	1008	36	1.645	70.3	11.0
6	Toad - Nonda	108E004	2560		534	43.3	2	1	1	2	7	25	24	15	10	7	3	2	463	36	1.906	29.8	5.39
6	Trout	108E007	1180	1400	461	17.2	3	3	3	3	7	21	20	12	10	8	5	4	198.3	29	3.058	11.8	4.38
6	Wapiti	7GE001	11300		284	101.7	1	1	1	6	21	27	16	9	6	6	3	2	2398	59	4.024	22.7	6.73
6	Ware (m)	1188696	25	777	111	0.1	0	0	0	88	12	0	0	0	0	0	0	0	14.8	44	1.486	na	na
6	Williston		72002		481	1097.5	2	2	2	4	18	29	16	8	6	6	4	3	na	na	na	na	na
7	Babine	8EC013	6790		231	49.7	4	3	4	4	12	21	17	11	8	6	5	5	191	7	1.407	25.3	13.4
7	Bulkley	8EE004	7360		568	132.5	2	2	2	4	19	23	16	10	6	7	6	3	781	27	1.295	61.5	14.3
7	Burns Lake (r)	1091169	25	704	99	0.1	0	0	0	93	7	0	0	0	0	0	0	0	6.3	19	1.492	na	na
7	Driftwood	8JD006	406	1110	671	8.6	1	1	1	2	26	29	12	4	4	6	3	2	92.2	31	1.085	1.14	0.384
7	Finlay	7EA005	16000		511	259.1	2	1	1	2	11	30	21	12	8	7	3	2	1925	36	1.400	145	30.1
7	Germansen (m)	1183090	25	747	129	0.1	0	0	0	87	13	0	0	0	0	0	0	0	12.5	37	1.440	na	na
7	Goathorn	8EE008	147	1100	378	1.76	1	1	1	4	24	25	17	9	6	7	5	2	32.1	24	1.722	0.478	0.066
7	Ingenika	7EA004	4200		446	59.4	2	1	1	2	13	32	20	8	7	6	3	2	584	31	1.709	25.9	6.28
7	Kispiox	8EB004	1870		771	45.7	1	1	1	6	19	24	15	7	7	10	5	2	564	57	2.016	7.82	2.94
7	Kitseguecla	8EF004	712	1080	672	15.2	2	2	2	4	19	29	15	7	6	9	6	3	387	83	2.210	4.40	1.04
7	Klappan	8CC001	3540	1540	655	73.5	1	1	1	1	8	25	25	5	9	7	3	2	514	31	1.182	40.8	6.66
7	Mesilinka	7EC003	2980		491	46.4	2	1	1	2	13	31	20	9	6	6	3	2	405	28	1.548	19.3	5.34
7	Muskeg	8KC003	303	882	228	2.2	3	2	2	16	38	10	4	2	2	3	3	3	24.12	10	1.169	0.224	0.217
7	Nation	7ED001	4350		427	58.9	2	2	2	2	21	36	14	5	3	5	5	3	479	25	1.356	10.7	8.1
7	Omineca	7EC002	5490		522	90.8	2	1	1	2	19	35	16	6	5	6	4	2	807	35	1.285	26.0	10.0
7	Osilinka	7EC004	1960		588	36.5	2	1	1	2	16	34	18	7	5	5	3	2	346	33	1.427	11.3	4.49
7	Pinkut	8EC004	818	1130	203	5.3	3	3	4	5	28	27	10	5	4	4	4	4	59	11	1.349	0.830	0.753
7	Pitman	8CA003	2730		514	44.5	1	1	1	1	13	31	21	10	9	9	4	2	432	32	1.193	20.9	3.65
7	Quick (r)	1076638	25	533	82	0.06	0	0	0	100	0	0	0	0	0	0	0	0	7.9	23	1.519	na	na
7	Richfield *	8EE009	173		222	1.22	1	1	1	6	51	21	6	2	3	6	5	2	23.1	15	1.176	0.026	0.017
7	Simpson	8EE012	12.2	1340	692	0.27	1	0	1	3	15	28	19	10	8	6	3	1	6.73	35	1.642	0.040	0.003
7	Smithers A (r)	1077500	25	523	111	0.09	0	5	5	90	0	0	0	0	0	0	0	0	8.1	24	1.358	na	na
7	Spatsizi	8CA001	3400		535	57.6	1	1	1	1	13	33	25	11	8	8	3	2	558	35	1.333	27.7	3.60
7	Stikine ab Canyon	8CB001	18800		508	302.6	1	1	1	1	11	29	22	12	9	7	3	2	2416	40	1.357	168	26.5
7	Stikine bl Spatsizi	8CA002	7690		519	126.5	1	1	1	1	14	32	23	11	9	8	3	2	1233	41	1.429	59.8	10.2
7	Stuart	8JE001	14600		281	130.0	4	3	3	3	9	17	20	14	9	7	5	5	456	9	1.337	84.2	33.0
7	Tsilcoh	8JE004	431	851	176	2.4	2	2	2	24	40	8	4	2	2	3	3	2	43.5	14	1.420	0.148	0.142
7	Two Mile *	8EE025	20		196	0.124	6	4	6	11	10	8	11	10	8	9	9	7	1.180	4	2.466	0.042	0.020
8	Iskut - Kinaskan	8CG003	1250	1400	438	17.3	2	2	2	2	5	20	24	16	10	8	5	3	92.2	13	1.232	11.6	1.91
8	Morice	8ED002	1930	1200	1220	74.6	3	2	2	2	8	21	19	14	9	9	7	4	319	31	1.307	50.6	9.46
8	Nass	8D8001	18500		1313	769.7	2	1	1	3	13	22	19	13	9	10	4	2	5909	98	1.953	376	48
8	Skeena	8EF001	42200		689	921.4	2	1	2	3	16	27	17	9	7	8	5	2	6550	57	1.230	372	89.4
8	Station *	8EE028	10.8	1450	816	0.279	1	1	1	2	14	24	21	13	9	8	3	2	5.34	31	2.630	0.097	0.017
8	Stikine at Telegraph	8CE001	29300		446	414.1	1	1	1	2	13	29	21	11	8	7	3	2	3095	36	1.249	234	41.7
8	Surprise	8DA005	220	1280	2114	14.7	1	1	1	2	11	23	23	16	10	8	3	1	163.1	88	1.748	6.02	0.535
8	Taku	8B8001	15400		574	280.1	1	1	1	2	12	23	21	16	10	8	3	2	2108	40	1.397	143	21.2
8	Telegraph Creek precip (r)	1208041	25	250	92	0.1	0	0	8	92	0	0	0	0	0	0	0	0	5.2	15	1.500	na	na
8	Telkwa	8EE020	368	1380	1237	14.4	1	1	1	2	14	23	19	13	9	7	4	2	181.8	65	1.683	6.02	1.05

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Table 1 Watershed Summary Table

Zone No.	Station Name	Station Number	Drainage Area	Median Elevation	Normal Annual Runoff		Monthly Distribution (%)												10 - Year Peak Flow		Ratio 100-Yr:10-Yr	10 - Year 7-Day Low Flow	
							Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	for D.A.	for 100 km²	Peak Flow	Jun-Sep	Annual
			(km²)	(m)	(mm)	(m³/s)													(m³/s)	(m³/s)		(m³/s)	(m³/s)
8	Terrace A (f)	1068130	25	217	813	0.644	8	7	35	11	0	0	0	0	0	9	20	10	35.4	105	1.469	na	na
8	Todagin Ranch precip (m)	1208202	25	899	83	0.1	0	0	0	100	0	0	0	0	0	0	0	0	9	27	1.356	na	na
8	Unnamed *	8CC002	29.2		1587	1.47	0	0	0	0	10	29	27	18	11	4	1	0	14.74	39	1.390	0.429	0.015
8	Zymagotitz	8EG011	370	881	2003	23.5	2	2	2	5	13	20	16	11	9	11	6	3	460	165	1.687	8.91	1.72
8	Zymoetz	8EF005	2980	1340	1110	104.8	2	1	2	3	15	23	17	11	8	9	5	3	1839	128	2.712	35.4	9.67
9A	Bear	8DC006	289	1290	2702	24.7	1	1	1	2	7	15	21	21	14	10	4	2	256	111	1.466	16.3	1.28
9A	Forrest Kerr	8CG006	312	1360	2806	27.7	0	0	0	1	4	15	27	27	15	8	2	1	207	85	1.268	14.7	0.617
9A	Harding	15022000	175		3777	20.9	3	2	2	4	10	15	16	13	13	12	6	4	310	200	1.465	8.63	1.48
9A	Iskut - Snippaker	8CG004	7230		1228	281.3	1	1	1	2	9	21	23	18	11	8	4	2	2755	96	2.271	152	19.0
9A	Iskut bl Johnson	8CG001	9350		1512	448.0	1	1	1	2	8	18	22	18	12	10	4	2	4382	124	2.174	273	33.9
9A	More	8CG005	844		1808	48.4	1	1	1	2	8	18	24	20	11	8	3	2	662	124	2.386	22.6	3.28
9A	Sloko	8BB002	427	1340	862	11.7	1	1	1	0	4	15	22	26	14	6	2	1	83	27	1.854	6.70	0.376
9A	Stikine ab Butterfly	8CF001	36000		564	643.4	1	1	1	2	12	25	22	14	9	8	3	2	4191	41	1.220	374	65.7
9A	Unuk	8DD001	1480		2185	102.5	2	1	1	2	8	17	20	18	13	10	4	3	1138	137	1.506	62.4	7.14
9B	Alouette		199	579	3296	20.8	10	9	9	8	10	8	5	2	4	9	14	13	na	na	na	na	na
9B	Capilano	8GA010	172	880	3715	20.2	8	8	8	8	12	10	6	3	4	10	12	11	502	328	1.506	1.33	1.19
9B	Chapman	8GA060	66.4	958	2272	4.8	8	7	7	7	14	12	6	2	3	11	11	11	151.8	209	1.850	na	na
9B	Cheakamus - Millar	8GA072	295	1660	1968	18.4	2	2	3	4	9	19	20	16	9	7	5	2	209.6	90	2.567	8.49	2.43
9B	Chehalis	8MG001	383		3033	36.8	9	9	8	10	11	10	6	2	3	9	14	12	776	270	1.807	3.76	3.19
9B	Clowhom	Inflow	380	1120	3007	36.2	5	5	5	6	13	16	13	7	5	9	9	7	na	na	na	na	na
9B	Clowhom Falls (s)	1041710	25	23	1592	1.3	17	14	13	6	2	0	0	0	0	11	20	18	48	143	1.350	na	na
9B	Coquihalla - Hope	8MF003	739	1230	1348	31.6	6	6	6	9	19	19	9	3	3	5	8	9	534	111	2.069	4.29	3.94
9B	Coquihalla - Needle	8MF062	79.8	1380	1332	3.4	4	3	4	9	26	24	10	3	2	3	6	5	49.3	59	2.031	0.401	0.345
9B	Coquitlam		186	809	3961	23.3	9	8	8	8	11	9	6	3	4	10	13	11	na	na	na	na	na
9B	Daisy		737		2114	49.4	3	3	3	5	12	19	18	11	7	7	6	4	na	na	na	na	na
9B	Earle	8GB009	25.6	1060	1443	1.2	9	7	5	7	13	14	7	3	3	10	10	12	22.04	64	1.549	0.060	0.074
9B	Egg Island	1062646	25	14	1969	1.6	15	10	9	7	3	2	0	0	6	14	17	16	na	na	1.402	na	na
9B	Elaho	8GA071	1250		2661	105.4	2	2	2	5	11	17	18	15	9	8	5	2	1140	157	1.394	39.3	7.43
9B	Exchamsiks	8EG012	370	878	3681	43.2	2	2	2	5	11	16	16	13	12	12	6	3	694	248	1.429	18.7	2.41
9B	Harrison	8MG013	7870		1799	448.6	5	4	4	5	9	17	17	12	7	6	7	6	1643	53	1.245	221	85.3
9B	Harrison - Lillooet		5710		1810	327.5	6	5	5	5	9	17	15	9	6	6	8	7	na	na	na	na	na
9B	Hirsch	8FF002	347	950	2014	22.1	3	2	3	6	13	17	13	8	8	12	8	5	658	248	1.786	4.99	1.06
9B	Hope A (s)	1113540	25	39	1279	1.0	22	16	11	7	1	0	0	0	0	1	21	21	58.4	173	1.325	na	na
9B	Kemano	8FE003	550	1220	2620	45.7	2	1	2	4	11	17	19	13	10	10	5	3	1025	269	1.895	14.3	1.96
9B	Kitimat	8FF001	1990	980	2077	131.0	4	3	3	6	13	16	13	9	8	12	8	5	2521	241	1.551	34	10.9
9B	Kitimat precip (f)	1064320	25		1640	1.3	8	8	26	10	2	0	0	0	0	19	16	10	54	160	1.481	na	na
9B	Kitsault	8DB011	251	966	2790	22.2	2	1	2	4	13	19	17	12	11	8	4	3	388	188	2.673	8.87	1.54
9B	Klotya	8EG016	89.6	250	2245	6.4	9	7	6	9	8	5	4	4	8	15	13	11	131.7	144	1.408	0.380	0.251
9B	Lang	8GB007	128	303	1051	4.3	14	13	13	9	7	3	2	1	2	6	14	17	52.4	43	1.338	0.078	0.078
9B	Lillooet	8MG005	2160	1640	1771	121.2	2	2	2	4	10	19	21	17	10	6	4	3	936	84	1.699	57.5	16.1
9B	Lime	8DB010	39.8	821	1375	1.73	2	2	3	8	21	18	9	5	8	13	6	3	65.2	134	1.829	0.199	0.080
9B	Little Weedene	8FF003	179	746	3039	17.2	3	3	3	7	15	18	12	7	7	10	8	4	382	242	1.991	3.38	1.35
9B	MacKay	8GA061	3.63	290	2200	0.3	12	12	10	8	6	4	2	1	2	7	16	15	11.5	155	1.711	0.006	0.005
9B	Mamquam	8GA054	323	1180	2528	25.9	6	5	6	7	13	16	12	6	5	7	9	7	319	127	1.315	5.84	3.5

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Zone No.	Station Name	Station Number	Drainage Area	Median Elevation	Normal Annual Runoff		Monthly Distribution (%)												10 - Year Peak Flow		Ratio 100-Yr:10-Yr Peak Flow	10 - Year 7-Day Low Flow	
							Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	for D.A.	for 100 km²		Jun-Sep	Annual
			(km²)	(m)	(mm)	(m³/s)													(m³/s)	(m³/s)		(m³/s)	(m³/s)
9B	Mashiter	8GA057	38.9	1150	2149	2.6	7	7	7	7	12	14	9	5	4	9	10	9	87	183	2.470	0.5	0.441
9B	McInnes Island	1065010	25	25	2042	1.6	15	11	9	7	4	2	0	2	7	15	15	13	na	na	1.358	na	na
9B	Mission WA (s)	1105192	25	221	1189	0.9	18	14	12	8	3	0	0	0	0	6	19	20	52	154	1.340	na	na
9B	N Alouette	8MH006	34.4	539	2641	2.9	12	11	9	8	7	6	4	2	4	9	14	14	132.2	306	1.406	0.092	0.089
9B	Nahatlatch	8MF065	715		1567	35.5	3	2	3	6	16	23	17	9	5	6	6	3	392	84	1.308	9.25	4.27
9B	NF Nooksak	12205000	730		972	22.5	6	5	5	6	11	16	14	9	6	7	8	7	253	53	1.454	7.3	4.32
9B	Nooksak	12210500	1513		2029	97.3	10	8	8	8	11	11	8	5	4	6	10	11	960	114	1.367	22.4	18
9B	Norrish	8MH058	117	797	3215	11.9	11	10	9	10	10	7	4	2	4	8	13	13	331	293	1.646	0.803	0.748
9B	Nusatsum	8FB005	275	1420	1999	17.4	3	2	2	4	10	16	17	13	10	9	6	4	246	111	1.493	6.96	1.97
9B	Patsy *	8DB012	5.86	841	1088	0.20	3	3	2	11	32	18	4	3	9	15	8	5	11.75	109	2.134	0.006	0.005
9B	Powell		1240		2409	94.7	8	7	7	7	12	13	9	5	5	10	10	9	na	na	na	na	na
9B	Prince Rupert A (m)	1066481	25	34	1966	1.6	12	11	8	7	4	2	0	3	9	17	13	13	40	119	1.400	na	na
9B	Ross		2587		1179	96.7	5	5	5	7	18	22	13	6	3	4	6	6	na	na	na	na	na
9B	Salloomt	8FB004	158	1160	1812	9.1	5	3	4	6	13	17	13	9	7	9	7	5	160.4	112	1.659	2.96	1.49
9B	Silverdale	8MH091	18.1	183	1452	0.8	15	13	11	9	6	4	3	2	3	6	13	15	21.9	84	1.467	0.084	0.084
9B	Siesse	8MH056	166	1320	1925	10.1	6	5	5	7	14	18	13	6	4	6	9	8	150	101	1.819	2.09	1.32
9B	Squamish bl Cheakamus		3340		2575	272.5	3	3	3	5	10	17	17	14	9	8	6	4	na	na	na	na	na
9B	Stave		1140		3071	110.9	8	7	7	7	11	12	9	5	5	9	11	9	na	na	na	na	na
9B	Stawamus	8GA064	40.4	1070	2909	3.7	6	5	7	8	15	15	9	4	4	9	10	8	97.3	198	1.502	0.426	0.278
9B	Stewart precip (s)	1067742	25	7	1302	1.0	3	4	31	10	3	0	0	0	7	24	14	4	43	128	1.419	na	na
9B	Thunder	12175500	272		2001	17.2	4	3	3	5	11	18	18	14	8	6	5	5	243	111	2.034	6.55	2.33
9B	Tulameen - Vuich	8NL071	253	1530	870	7.0	3	2	3	9	29	28	8	2	1	2	5	4	157.3	76	2.027	0.291	0.262
9B	Wahleach	8MF006	62	1150	3306	6.5	6	6	6	7	12	15	11	6	5	7	9	8	na	na	na	na	na
9B	Wannock	8FA002	3940		2615	326.5	4	3	3	4	9	15	16	14	10	11	7	5	1939	108	1.414	174	45.8
9B	Whistler (s)	1048898	25	640	922	0.7	5	4	49	15	2	0	0	0	0	0	15	9	27.2	81	1.331	na	na
10	Cape St James	1051350	25	92	927	0.7	17	13	10	8	3	0	0	0	0	15	17	17	na	na	1.337	na	na
10	Pallant	8OB002	81.9	199	3163	8.2	11	8	9	8	6	4	3	2	5	14	14	13	107.6	126	1.424	0.295	0.295
10	Premier	8OA003	0.605	388	933	0.0	15	10	9	8	4	2	1	1	4	14	16	16	0.494	27	1.382	0.001	0.001
10	Sandspit A (r)	1057050	25	6	753	0.6	20	15	11	8	0	0	0	0	0	4	22	21	12	36	1.333	na	na
10	Yakoun	8OA002	474	161	2094	31.5	13	10	8	8	5	3	2	2	5	15	15	14	469	138	1.459	0.970	0.972
11	Atnarko	8FB006	2430		394	30.3	4	3	3	4	19	26	14	8	5	5	5	4	263	21	1.499	9.56	4.61
11	Bella Coola	8FB007	3730		800	94.6	3	2	2	3	11	19	19	17	10	8	4	3	680	40	1.515	48.5	10.7
11	Bella Coola prec (f)	1060840	25	18	1123	0.89	17	21	10	5	0	0	0	0	0	13	19	16	46.5	138	1.424	na	na
11	Chilko - Lake	8MA002	2110		630	42.1	3	2	2	2	4	14	22	21	13	8	6	4	179	16	1.277	28	5.25
11	Clayton Falls *	8FB009	112	1240	1897	6.73	5	4	4	5	11	13	12	8	8	9	8	6	112.0	102	1.245	2.47	1.42
11	Homathko	8GD004	5720		1462	265.0	2	2	2	3	8	16	21	21	12	7	4	3	2031	85	1.613	150	26.7
11	Klinaklini	8GE002	5780		1684	308.4	2	2	2	3	8	16	20	20	13	6	4	3	1649	68	1.401	170	30.3
11	Lingfield	8MA006	97.9	1770	264	0.8	1	1	1	3	29	29	11	4	1	2	2	1	15.71	16	1.848	0.049	0.027
11	Mosley	8GD007	1550		958	47.1	2	2	2	2	8	18	23	20	11	6	4	2	302	35	1.317	26.8	4.82
11	Nadina	8JB008	366	1060	486	5.6	2	2	2	3	27	27	12	6	3	5	6	4	57.5	21	1.586	1.09	0.522
11	Nanika	8ED001	720	1230	1280	29.2	2	2	1	2	13	23	19	11	7	8	6	4	203.2	43	1.784	12.1	3.15
11	Homathko-Tatlayoko	8GD008	485	1400	124	1.9	3	2	3	5	14	18	16	11	6	6	4	3	15.52	4	1.630	0.815	0.3
12A	Baezaeko	8KG003	992		76	2.4	3	3	3	9	24	17	12	8	7	6	5	3	21.5	4	1.451	0.734	0.372

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Table 1 Watershed Summary Table

Zone No.	Station Name	Number	Drainage Area	Median Elevation	Normal Annual Runoff		Monthly Distribution (%)												10 - Year Peak Flow		Ratio 100-Yr:10-Yr	10 - Year 7-Day Low Flow	
							Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	for D.A.	for 100 km²	Peak Flow	Jun-Sep	Annual
			(km²)	(m)	(mm)	(m³/s)													(m³/s)	(m³/s)		(m³/s)	(m³/s)
12A	Baker	8KE016	1570		96	4.8	2	2	3	17	37	14	8	5	3	3	3	2	76.4	9	1.618	0.182	0.179
12A	Bonaparte - Bridge	8LF062	650	1250	141	2.9	2	2	3	7	24	26	16	9	5	3	2	2	25	6	1.995	0.261	0.07
12A	Bonaparte - Cashe	8LF002	5020		37	5.9	3	3	4	8	22	23	14	7	5	4	3	3	57.2	3	1.517	0.57	0.434
12A	Bridge - 100 Mile	8LA005	1330		55	2.3	3	3	4	11	23	18	11	6	4	4	3	3	15.92	2	1.383	0.070	0.047
12A	Bridge - Horse L	8LA020	912		55	1.6	3	3	5	9	18	19	13	8	6	5	4	4	9.47	2	1.367	0.023	0.010
12A	Buck	8EE013	593	1110	235	4.4	1	1	1	9	43	22	6	2	2	3	3	2	62.8	16	1.326	0.142	0.107
12A	Chilako	8JC005	3370	902	115	12.3	3	2	4	18	34	15	7	4	3	3	4	3	135.7	9	1.566	1.78	1.72
12A	Chilcotin - Big	8MB005	19300		168	102.7	2	2	2	3	8	16	20	19	10	6	4	3	480	8	1.477	71.9	15.5
12A	Chilko - Redstone	8MA001	6940		384	84.4	2	2	2	2	6	17	22	21	12	7	4	3	389	14	1.289	59.8	12.3
12A	Chuchinka	7EE009	311	952	527	5.2	2	2	3	19	36	10	4	2	3	5	5	3	73.8	30	1.319	0.217	0.233
12A	Dean	8FC003	3780		151	18.1	2	2	3	8	27	27	13	5	3	4	3	3	152.1	9	1.489	2.45	1.94
12A	Fiftynine *	8LF080	27.9	1590	67	0.059	6	6	7	7	7	7	6	6	6	8	7	7	0.855	2	1.809	0.016	0.015
12A	Fraser - Shelley	8KB001	32400		804	825.5	2	2	2	6	18	23	16	10	7	7	5	3	4138	44	1.291	353	114
12A	Ft St James (r)	1092970	25	686	100	0.1	0	0	0	91	9	0	0	0	0	0	0	0	6	18	1.467	na	na
12A	Groundhog *	8MB009	264	1650	54	0.45	1	1	1	16	39	23	12	4	3	3	3	2	11.78	5	1.990	0.046	
12A	Kersley (r)	1094125	25	671	83	0.1	0	0	0	89	11	0	0	0	0	0	0	0	6.3	19	1.333	na	na
12A	Lemieux	8LB078	457	1270	221	3.2	2	2	2	9	32	18	9	5	3	2	3	3	42.2	13	1.729	0.090	0.082
12A	Little Swift	8KE024	122	1450	727	2.8	1	1	2	6	28	30	11	4	4	5	3	2	46.4	40	1.505	0.309	0.164
12A	MacIvor	8JA016	57.5	1500	659	1.201	1	1	1	2	14	25	14	12	5	4	3	2	11.09	17	1.229	0.185	0.045
12A	Mahood	8LA008	4710		213	31.8	2	2	3	5	26	30	15	7	4	4	3	3	230	11	1.419	4.32	2.30
12A	Mann	8LB050	300	1300	318	3.0	1	1	2	10	42	23	7	4	3	3	3	2	53.2	22	1.599	0.089	0.018
12A	McDonald *	8LF095	20.4		90	0.058	2	2	3	21	31	18	9	2	1	1	2	2	2.198	8	2.418	0.001	
12A	McKinley	8KH020	426	1180	375	5.1	3	2	3	8	27	23	11	5	4	4	4	3	37.5	12	1.537	0.226	0.168
12A	Moffat	8KH019	539		199	3.4	2	2	3	13	34	19	9	4	4	4	4	2	37.1	10	1.387	0.181	0.171
12A	Nautley	8JB003	6030		157	30.0	3	3	3	5	20	24	16	9	5	4	4	3	175	7	1.476	10.4	4.64
12A	Nazko	8KF001	3240		46	4.7	2	2	3	16	35	14	8	5	4	3	3	3	73.4	5	1.617	0.299	0.291
12A	Nechako Reservoir		14132		437	195.7	4	3	3	5	18	22	15	8	5	7	6	5	na	na	na	na	na
12A	Nechako River		13768		115	50.2	1	3	5	16	34	10	-2	14	6	4	8	0	na	na	na	na	na
12A	Prince George A (r)	1096450	25	673	147	0.1	0	0	0	86	14	0	0	0	0	0	0	0	7.2	21	1.486	na	na
12A	Quesnel	8KH006	11500		660	240.5	3	2	3	5	14	22	18	12	8	6	5	3	1008	24	1.215	123	42.2
12A	Quesnel - lower		5570		572	101.0	1	1	3	6	18	24	17	10	7	6	4	3	na	na	na	na	na
12A	Salmon	8KC001	4300	831	209	28.5	3	2	3	19	41	13	5	2	2	3	4	3	296	15	1.420	2.36	2.29
12A	Stellako	8JB002	3600		177	20.2	3	3	3	3	16	25	18	11	6	4	4	3	119.4	7	1.531	8.63	3.16
12A	Van Tine	8JA014	152	1240	212	1.02	2	1	1	9	31	18	10	4	4	3	3	2	23.52	17	1.553	0.037	0.014
12A	West Road	8KG001	12400		87	34.2	3	3	3	12	27	16	11	6	5	5	5	4	289	7	1.517	8.4	6.29
12A	Willow	8KD006	2810	1050	466	41.5	2	2	3	12	28	19	8	5	5	6	5	3	362	26	1.560	5.4	4.36
12B	Adams	8LD001	3090	1280	741	72.6	3	2	2	3	12	23	20	12	8	6	5	4	309	21	1.296	44.2	12.5
12B	Ambusten	8LF081	32.9	1505	26	0.0	3	2	2	3	18	21	11	5	4	4	3	3	0.547	1	3.084	0.004	0.002
12B	Anderson	8LF084	32.2	1810	100	0.1	2	2	2	3	24	31	13	5	3	3	3	3	3.06	7	2.773	0.012	0.004
12B	Ashnola	8NL004	1060	1890	223	7.5	1	1	2	3	24	40	14	5	3	2	2	2	165.6	26	1.940	1.01	0.645
12B	Beak	8LG064	85.9	1450	146	0.4	2	1	2	13	37	24	7	2	2	2	2	2	9.25	10	1.434	0.007	0.006
12B	Bellevue	8NM035	74.5	1540	157	0.4	1	1	1	6	50	36	8	1	1	1	1	1	11.58	15	1.767	0.001	0.002
12B	Bethsaida	8LG055	15.5	1550	89	0.0	2	2	3	7	51	17	7	4	3	3	3	3	1.493	6	1.900	0.005	0.002
12B	Boundary - Greenwood	8NN001	475	1240	189	2.8	1	1	2	16	42	24	5	2	2	2	1	1	49.2	14	1.559	0.108	0.0909
12B	Bull - Crump	8NM133	48.2	1530	88	0.1	1	1	2	5	36	33	9	3	2	2	2	1	3.31	6	1.840	0.005	0.005

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Zone No.	Name	Station Number	Drainage Area	Median Elevation	Normal Annual Runoff		Monthly Distribution (%)												10 - Year Peak Flow		Ratio 100-Yr:10-Yr	10 - Year 7-Day Low Flow	
							Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	for D.A.	for 100 km²	Peak Flow	Jun-Sep	Annual
			(km²)	(m)	(mm)	(m³/s)													(m³/s)	(m³/s)		(m³/s)	(m³/s)
12B	BX	8NM020	55.9	1130	168	0.3	1	1	4	16	37	23	7	4	2	2	2	1	4.57	7	1.397	0.006	0.005
12B	Camp	8NM134	36.5	1450	130	0.2	2	2	3	9	36	24	7	4	3	3	3	3	2.58	6	1.437	0.024	0.018
12B	Clark	8NM146	16.2	1360	143	0.1	1	1	2	13	59	16	7	2	2	1	1	1	1.915	8	1.265	0.001	0.000
12B	Coldstream	8NM142	59.4	1120	124	0.2	2	1	3	18	39	17	7	4	3	2	2	2	3.85	6	1.612	0.010	0.009
12B	Coldwater - Brookmere	8LG048	311	1430	697	6.9	3	2	3	8	29	29	10	2	1	3	5	4	115.8	48	1.648	0.472	0.356
12B	Coldwater - Merritt	8LG010	914	1160	291	8.4	3	3	4	10	30	28	9	2	1	3	4	4	126.6	22	1.326	0.276	0.26
12B	Cottonwood - Cinema	8KE009	1910		408	24.7	2	2	3	16	30	19	9	4	4	5	4	2	302	30	1.297	2.33	1.78
12B	Criss	8LF007	471	1190	116	1.7	1	1	1	7	41	31	8	2	2	3	2	1	41.7	12	1.932	0.014	0.013
12B	Daves	8NM137	33.4	1290	104	0.1	1	1	3	17	42	17	8	3	3	3	2	2	2.36	6	1.439	0.001	0.001
12B	Deadman	8LF027	870	1190	60	1.7	2	2	2	7	37	22	11	5	4	3	3	2	27.9	5	1.759	0.219	0.111
12B	Ewer	8NM176	49.1	1470	215	0.3	1	1	2	11	48	27	7	3	2	2	2	2	7	12	1.437	0.032	0.024
12B	Fishtrap	8LB024	134	1340	179	0.8	2	1	2	10	44	20	8	4	3	3	2	2	12.97	10	1.650	0.069	0.047
12B	Granby	8NN002	2030	1320	469	30.2	1	1	4	16	36	28	8	2	1	2	2	1	376	35	1.201	1.2	1.15
12B	Greata	8NM173	42.3	1280	56	0.1	3	3	3	8	42	24	9	4	3	3	3	3	1.439	3	2.395	0.006	0.006
12B	Guichon	8LG056	78.2	1340	53	0.1	2	2	3	7	35	26	10	4	4	3	3	2	2.198	3	1.680	0.009	0.007
12B	Hat	8LF015	681	1320	33	0.7	3	3	4	7	21	30	11	5	4	4	4	3	14.37	3	2.225	0.068	0.061
12B	Hat - upper	8LF061	352	1410	51	0.6	3	3	4	7	24	36	13	5	4	4	4	3	14.53	5	1.607	0.056	0.051
12B	Hedley	8NL050	378	1680	202	2.4	1	1	1	5	32	31	10	4	3	2	2	1	55.3	19	1.580	0.282	0.0851
12B	Inonoaklin	8NE110	296	1470	400	3.8	1	1	2	10	35	31	9	3	2	2	2	2	63.3	27	1.317	0.317	0.2
12B	Joe Ross *	8LF094	100	1260	72	0.23	1	1	1	26	29	14	6	2	1	2	1	1	5.79	6	2.054	0.002	
12B	Kamloops A (r)	1163780	25	345	1	0.0	0	0	100	0	0	0	0	0	0	0	0	0	6.1	18	1.623	na	na
12B	Kelowna A (r)	1123970	25	430	26	0.0	0	0	100	0	0	0	0	0	0	0	0	0	5.8	17	1.397	na	na
12B	Keremeos	8NL045	184	1320	115	0.7	2	2	2	4	26	37	11	4	3	3	3	2	12.1	7	1.662	0.093	0.083
12B	Kettle - Ferry	8NN013	5750		241	43.9	1	1	2	12	37	29	8	2	2	2	2	1	449	19	1.134	2.3	2.05
12B	Kettle - Laurier	8NN012	9840		263	82.0	1	1	3	13	35	28	8	3	2	2	2	2	775	21	1.210	4.75	4.48
12B	Lambly	8NM165	75.3	1390	252	0.6	1	1	2	11	42	24	7	3	2	2	2	2	11.34	14	1.346	0.041	0.025
12B	Lytton (m)	1114741	25	258	61	0.0	0	55	45	0	0	0	0	0	0	0	0	0	17.4	52	1.448	na	na
12B	Mission	8NM116	816	1340	232	6.0	2	1	2	8	32	32	9	3	4	3	3	2	81.7	16	1.299	0.468	0.299
12B	Nicola	8LG006	7280		115	26.5	3	3	4	8	29	29	9	3	2	3	4	3	312	11	1.512	2.82	2.05
12B	Nicola (ab Lake)	8LG049	1580	1230	77	3.9	2	2	2	5	36	34	10	3	2	1	2	2	52.4	6	1.497	0.052	0.035
12B	Nicola (Merritt)	8LG007	4350		99	13.6	3	3	4	7	26	31	11	3	2	3	4	3	149.5	8	1.352	1.65	1.07
12B	Okanagan		6090		78	15.1	2	3	5	12	43	30	5	-2	-1	0	1	2	na	na	na	na	na
12B	Pasayten	8NL069	562		464	8.3	3	2	2	6	25	29	12	4	3	2	3	3	123.1	32	1.526	1.07	0.502
12B	Paul	8LB012	59.9	1090	98	0.2	3	2	5	12	27	17	8	2	2	2	3	3	2.11	3	1.871	0.002	0.001
12B	Pearson	8NM172	74.6	1560	388	0.9	1	1	2	6	29	37	12	4	4	3	2	1	16.5	21	1.161	0.068	0.054
12B	Pennask	8LG016	79.8	1680	295	0.7	1	1	1	4	35	37	8	3	2	2	3	2	18.1	22	1.557	0.037	0.034
12B	Penticton A (m)	1126150	25	344	13	0.0	0	8	92	0	0	0	0	0	0	0	0	0	13.7	41	1.460	na	na
12B	Princeton A (m)	1126510	25	700	59	0.0	0	0	92	8	0	0	0	0	0	0	0	0	10.5	31	1.314	na	na
12B	Salmon - Falkland	8LE020	1020	1190	82	2.7	3	3	4	8	32	24	9	4	4	4	4	3	32.7	5	1.692	0.57	0.462
12B	Salmon - Salmon Arm	8LE021	1440	1130	99	4.5	4	3	5	9	31	23	8	4	3	4	4	3	42.9	5	1.318	0.666	0.574
12B	Salmon - Salmon Lake	8LE075	142	1350	154	0.7	1	1	2	5	36	34	9	3	3	3	2	2	12.54	10	1.318	0.051	0.023
12B	Scottie *	8LF089	141		47	0.21	4	4	6	10	25	16	10	4	3	5	6	6	3.97	3	4.572		
12B	Shatford	8NM037	96.9	1530	123	0.4	1	1	1	4	33	39	10	3	2	2	2	1	12.76	13	1.900	0.017	0.015
12B	Similkameen - Goodfellow	8NL070	407		629	8.1	3	2	2	7	26	30	11	3	2	2	4	3	128.3	43	1.526	0.896	0.5
12B	Similkameen - Hedley	8NL038	5660	1460	273	49.0	2	2	3	7	31	31	10	3	2	2	3	3	699	29	1.445	4.74	3.56
12B	Similkameen - Princeton	8NL007	1940	1590	383	23.5	2	2	3	6	28	35	12	3	2	2	3	2	369	36	1.588	2.52	1.4

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			(km²)	(m)	(mm)	(m³/s)													(m³/s)	(m³/s)		(m³/s)	(m³/s)
12B	Smith	8NL034	127	1580	117	0.5	1	1	2	8	42	28	8	3	2	2	2	1	10.55	9	2.025	0.017	0.016
12B	Soukup	8NL035	24.6	1330	60	0.0	3	3	4	13	43	13	4	3	3	3	3	3	1.41	4	3.535	0.005	0.005
12B	Splus	8LG008	767	1290	423	10.3	3	2	4	11	31	27	8	2	1	2	4	3	172	35	1.438	0.475	0.443
12B	Summerland CDA (r)	1127800	25	455	5	0.0	0	0	100	0	0	0	0	0	0	0	0	0	5.9	18	1.508	na	na
12B	Terrace	8NM138	34.8	1490	265	0.3	1	1	1	12	51	22	4	2	1	1	2	1	5.42	12	1.252	0.003	0.002
12B	Testalinden	8NM164	13	1270	70	0.0	2	2	5	24	39	26	9	4	3	3	3	2	0.804	4	2.238	0.002	0.002
12B	Tonasket	12439300	156		16	0.1	4	6	18	31	26	11	5	4	4	3	2	2	6.16	4	3.467	0.001	0.0003
12B	Trapping	8NN019	144	1350	317	1.4	1	1	2	14	41	25	7	2	2	2	2	1	25.3	19	1.243	0.052	0.047
12B	Tulameen - Princeton	8NL024	1790	1400	389	22.1	3	2	3	9	33	30	8	2	1	2	4	3	390	41	1.690	1.43	1.3
12B	Vaseux	8NM171	116	1680	237	0.9	1	1	1	6	42	31	7	3	2	2	2	1	23.5	21	1.439	0.060	0.049
12B	Vernon Coldstrean (r)	1128580	25	482	42	0.0	0	0	100	0	0	0	0	0	0	0	0	0	5.4	16	1.444	na	na
12B	W Kettle - Carmi	8NN022	1170	1380	257	9.5	1	1	3	16	40	26	8	3	2	2	2	1	133	19	1.145	0.362	0.327
12B	W Kettle - McCulloch	8NN015	230	1620	477	3.5	1	1	1	6	35	36	10	3	3	3	2	1	59.6	31	1.187	0.115	0.107
12B	Watching *	8LF049	71.2	1420	207	0.467	2	1	2	8	44	28	9	3	2	3	2	2	9.04	12	1.591	0.054	0.029
12B	Whipsaw	8NL036	186	1450	173	1.0	2	2	3	8	33	31	9	3	2	2	3	3	18.5	11	1.702	0.081	0.067
12B	Whiteman	8NM174	109	1450	180	0.6	1	1	3	10	49	27	7	2	2	2	2	1	12.95	12	1.416	0.020	0.019
12B	Wolfe	8NL041	213	1380	77	0.5	2	2	3	6	36	31	10	4	3	2	2	2	9.04	5	1.774	0.037	0.016
13	Anderson - Nelson	8NJ130	9.07	1770	370	0.1	2	2	4	13	35	26	8	3	2	2	2	2	1.809	12	1.693	0.013	0.010
13	Argenta	8NH051	6.2	1950	341	0.1	4	4	4	4	8	16	21	14	9	7	5	5	0.339	3	1.771	0.044	0.021
13	Arrow	8NH084	76.7	1570	708	1.7	2	2	4	11	32	26	8	3	3	3	3	3	28.5	35	1.329	0.332	0.207
13	Barkerville	1090660	25	1265	575	0.5	1	1	1	62	23	0	0	0	0	8	2	1	na	na	1.312	na	na
13	Barnes	8NE077	201	1460	625	4.0	2	1	2	8	33	30	9	3	3	3	3	2	51.4	30	1.321	0.59	0.418
13	Barriere - mouth	8LB020	1170	1200	388	14.4	2	2	2	7	28	31	13	4	3	3	3	2	124.1	18	1.193	1.77	1.34
13	Barriere - Sprague	8LB069	624	1500	571	11.3	2	1	2	6	27	33	13	4	3	4	3	2	114	27	1.422	1.63	1.03
13	Beaton	8NE008	97.8	1490	887	2.7	3	3	3	6	17	26	17	7	5	4	4	4	18	18	1.405	1.01	0.598
13	Big Sheep	8NE039	347	1380	497	5.5	2	2	5	19	40	20	5	2	1	1	2	2	67.6	25	1.290	0.353	0.305
13	Blue River A (m)	1160899	25	679	521	0.4	2	2	3	7	61	18	0	0	0	0	5	3	14.3	42	1.371	na	na
13	Boundary - Porthill	8NH032	251		733	5.8	2	2	3	11	36	26	6	2	2	2	4	3	84.8	41	1.366	0.469	0.448
13	Bowron - Box Canyon	8KD007	3420		634	68.7	3	2	3	8	22	23	11	6	6	7	6	4	459	29	1.269	15.1	10.1
13	Bowron - Wells	8KD001	456	1130	641	9.3	3	2	3	5	18	23	15	8	7	6	6	4	53.6	16	1.289	2.75	1.46
13	Burrell	8NN023	224	1430	619	4.4	1	1	3	17	38	24	6	2	1	2	2	2	62.4	33	1.299	0.108	0.080
13	Canoe	8NC004	295	1960	1562	14.6	1	1	1	2	9	19	25	22	10	5	2	1	100.4	43	1.241	5.74	1.03
13	Caribou	8KH003	3260		943	97.4	2	2	2	4	16	25	17	11	8	6	4	3	512	33	1.265	41.7	12.5
13	Carney	8NH131	118		1241	4.6	1	1	1	3	15	27	23	13	6	3	2	1	47.3	42	1.335	1.54	0.357
13	Castlegar A (l)	1141455	25	494	288	0.2	7	8	61	14	0	0	0	0	0	0	0	10	22.9	68	1.432	na	na
13	Clearwater	8LA001	10200		693	224.0	2	1	2	3	16	27	19	11	7	5	4	2	1203	32	1.251	87.4	27.5
13	Clearwater - Lake	8LA007	2950		1442	134.8	2	1	1	3	14	26	21	13	8	5	4	2	792	56	1.268	61.2	15.5
13	Creston (l)	1142160	25	597	65	0.1	0	0	75	25	0	0	0	0	0	0	0	0	14.9	44	1.275	na	na
13	Deer	8NE087	80.5	1280	324	0.8	2	1	3	10	30	31	10	3	3	3	2	2	13.95	17	1.367	0.108	0.0814
13	Downie	8ND009	642	1670	1462	29.7	2	1	1	4	15	25	22	14	8	5	3	2	264	61	1.449	12.8	2.70
13	Duck	8NH016	51.9	1520	551	0.9	3	3	5	9	21	20	10	6	4	4	4	4	7.96	13	1.466	0.321	0.228
13	Duncan		2396		1349	102.4	2	1	2	4	14	25	22	14	7	4	3	2	na	na	na	na	na
13	Duncan - BB	8NH119	1280	1880	1539	62.4	1	1	1	4	15	26	23	14	7	4	3	2	545	74	1.444	22.5	5.48
13	Duncan Dam (m)	1142574	25	549	318	0.3	8	9	57	12	0	0	0	0	0	0	1	13	16.1	48	1.466	na	na
13	Eagle	8LE024	906	1390	1314	37.7	2	2	3	8	20	26	16	7	5	5	4	3	303	54	1.268	9.78	4.63

* Short Record Station

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s - steep, l - intermediate, m - moderate, r - rolling, f - flat

Table 1 Watershed Summary Table

Zone No.	Name	Station Number	Drainage Area	Median Elevation	Normal Annual Runoff		Monthly Distribution (%)												10 - Year Peak Flow		Ratio 100-Yr:10-Yr	10 - Year 7-Day Low Flow	
							Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	for D.A.	for 100 km²	Peak Flow	Jun-Sep	Annual
			(km^2)	(m)	(mm)	(m^3/s)													(m^3/s)	(m^3/s)		(m^3/s)	(m^3/s)
13	Five Mile	8NJ168	47.9	1780	843	1.3	2	2	1	5	30	36	11	4	3	2	3	2	18.6	33	1.338	0.113	0.082
13	Fry	8NH130	590	2020	1036	19.4	1	1	1	4	18	29	21	10	5	3	2	1	198	49	1.422	6.03	1.4
13	Goat	8NH004	1260	1470	643	25.7	2	2	4	11	32	28	8	3	2	2	3	2	316	43	1.374	3.47	2.08
13	Goldstream	8ND012	938		1326	39.4	1	1	1	4	15	26	22	13	7	4	3	2	282	49	1.422	16	4.04
13	Harper	8LB076	170	1680	758	4.1	2	1	2	6	26	31	14	5	4	4	3	2	46.7	31	1.180	0.633	0.333
13	Hidden	8NE114	57.4	1550	899	1.6	3	2	4	12	30	25	8	3	3	3	5	4	22.56	35	1.898	0.157	0.143
13	Horsefly	8KH010	794	1500	786	19.8	2	2	2	5	21	28	16	7	5	5	4	2	147	29	1.271	3.84	2.19
13	Horsefly BCFS (m)	1093599	25	785	100	0.1	0	0	0	81	19	0	0	0	0	0	0	0	14	42	1.371	na	na
13	Illecillewaet	8ND013	1130	1680	1491	53.4	1	1	1	4	15	25	22	13	7	4	3	2	397	59	1.488	19.7	4.88
13	Incomappleux	8NE101	1010	1820	1737	55.6	2	1	2	5	15	24	21	14	7	4	3	2	486	79	1.606	21.9	6.14
13	Jordan	8ND014	271	1610	2012	17.3	1	1	1	5	21	28	19	9	5	4	3	2	202	92	1.850	4.53	1.2
13	Kaslo	8NH005	453	1740	930	13.3	2	1	2	5	20	31	18	7	5	4	3	2	146	45	1.645	3.71	1.49
13	Keen	8NH132	92.6	2000	1155	3.4	1	1	1	4	19	30	20	9	5	4	3	2	33.5	36	1.248	0.855	0.274
13	Kirbyville	8ND019	110	1711	1728	6.0	1	1	1	3	13	24	23	12	9	7	4	2	61.8	57	2.222	3.92	[illegible]
13	Kuskanax - 1040	8NE117	112	1770	1612	5.7	1	1	1	5	23	31	16	5	4	3	3	2	65.1	60	1.350	0.793	[illegible]
13	Kuskanax - Nakusp	8NE006	333	1680	1366	14.4	2	1	2	5	23	33	16	5	4	4	4	2	210	82	2.303	2.81	[illegible]
13	Lardeau	8NH007	1640	1660	1140	59.2	2	2	2	4	16	28	20	10	5	4	4	3	368	41	1.273	22.5	9.09
13	Lemon	8NJ160	178	1680	863	4.9	2	2	2	6	22	30	14	5	4	3	3	3	60	38	1.654	1	0.658
13	Mitchell	8KH014	251	1640	1526	12.1	2	2	2	2	10	23	22	16	10	7	4	3	56.8	28	1.165	8.97	1.37
13	Murtle	8LA004	1380		970	42.4	2	2	2	3	15	31	19	9	6	5	5	3	258	33	1.286	15.3	5.40
13	N Thompson - Birch	8LB047	4450	1200	1056	148.9	2	1	2	4	16	25	20	13	7	5	3	2	904	46	1.226	59.8	13.8
13	Quesnel - Likely	8KH001	5930		724	136.0	3	2	2	3	11	22	20	13	8	6	5	4	524	21	1.255	72.9	22.9
13	Redfish	8NJ061	26.2	1890	986	0.8	2	1	2	5	25	37	16	4	3	3	3	2	13.06	37	1.248	0.089	0.068
13	Revelstoke A (m)	1176751	25	443	526	0.4	3	4	63	16	0	0	0	0	0	0	10	5	14.2	42	1.387	na	na
13	S Thompson - Chase	8LE031	16200		594	304.9	3	3	3	4	12	23	20	11	7	5	5	4	1222	23	1.248	147	71.2
13	Salmo	8NE074	1230	1460	801	31.2	2	2	4	13	32	26	8	3	2	2	3	3	355	50	1.378	3.41	3.13
13	Salmon Arm (f)	1166946	25	396	109	0.1	0	0	92	8	0	0	0	0	0	0	0	0	7.1	21	1.549	na	na
13	Seymour	8LE027	818	1380	1686	43.7	1	2	3	7	19	26	18	8	6	4	4	2	297	57	1.398	8.59	3.18
13	Shuswap - Enderby	8LC002	4690		604	89.8	4	3	4	7	17	26	16	6	5	5	4	4	474	23	1.310	29.2	22.4
13	Slocan	8NJ013	3320		881	92.7	2	2	3	6	19	29	17	7	4	4	4	3	621	40	1.373	25.5	15.7
13	Sugar	8LC002	1130		1195	42.8	2	2	3	8	21	27	15	7	5	4	4	3	na	na	na	na	na
13	Sullivan	8NH115	5.59	1570	340	0.1	3	3	4	11	27	24	9	5	4	3	3	3	0.578	6	1.525	0.014	0.009
13	Vance	8LC040	69.9	1040	194	0.4	2	1	4	16	37	23	9	4	3	3	2	2	5.78	8	1.375	0.035	0.026
13	Whatshan	Outlet	394	1260	798	10.0	3	2	4	12	25	25	11	4	3	3	5	4	na	na	na	na	na
14	Albert	8NF005	67.8	2080	774	1.7	0	0	0	1	19	36	21	8	5	3	1	1	22.9	31	1.605	0.326	0.004
14	Athabaska	7AA002	3880		720	88.5	1	1	1	1	8	23	24	19	10	5	2	2	609	34	1.445	48.4	7.94
14	Banff	3050520	25	1397	143	0.1	0	0	0	70	30	0	0	0	0	0	0	0	na	na	1.371	na	na
14	Beaver *	8NB019	1150		1170	42.7	1	1	1	4	16	24	20	13	7	4	3	2	353	52	1.855	17.5	4.05
14	Blaeberry - Ensign	8NB015	230	2170	1065	7.8	1	1	1	2	12	22	23	18	9	4	2	2	58.6	30	1.344	3.49	0.449
14	Blaeberry - Willowbank	8NB012	585	2000	929	17.2	1	1	1	3	13	23	22	16	8	4	2	2	123	31	1.349	7.87	1.3
14	Brewster	5BB004	109		344	1.2	1	1	0	1	13	36	23	11	6	4	3	1	17.9	17	1.453	0.399	na
14	Bull	8NG002	1500	1730	689	32.7	2	2	2	7	26	29	14	6	4	3	3	2	335	40	1.389	9.21	4.11
14	Cabin	8NP004	93.3	1810	705	2.085	2	1	2	11	34	22	6	2	3	3	4	2	32.4	34	1.374	0.279	0.155
14	Carbonate*	8NA037	7.28	1690	399	0.092	2	2	2	13	21	24	14	8	7	4	3	2	0.989	8	1.420	0.044	
14	Castle - Beaver	5AA022	823		575	15.0	2	1	2	7	30	32	11	4	3	3	3	2	343	66	2.359	2.56	0.98

* Short Record Station

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Table 1 Watershed Summary Table

Zone No.	Station Name	Number	Drainage Area	Median Elevation	Normal Annual Runoff		Monthly Distribution (%)												10 - Year Peak Flow		Ratio 100-Yr:10-Yr	10 - Year 7-Day Low Flow	
							Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	for D.A.	for 100 km²	Peak Flow	Jun-Sep	Annual
			(km²)	(m)	(mm)	(m³/s)													(m³/s)	(m³/s)		(m³/s)	(m³/s)
14	Castle - Ranger	5AA028	376		718	8.6	2	1	2	6	28	32	12	4	3	3	3	2	137.8	49	1.858	1.72	na
14	Cataract	8BL022	166		359	1.9	1	1	1	3	24	38	13	6	4	3	2	1	46.7	31	1.878	0.385	0.088
14	Caven	8NG078	304	1760	234	2.3	3	3	4	13	31	19	7	4	3	3	4	4	27.3	11	1.420	0.436	0.341
14	Columbia - Donald	8NB005	9710		566	174.2	2	1	2	3	11	25	24	16	8	4	3	2	915	25	1.450	89.4	22.2
14	Columbia - Fairmont	8NA045	857	1830	372	10.1	3	3	3	3	10	28	22	11	6	5	4	3	65.5	12	1.567	5	2.17
14	Columbia - Nicholson	8NA002	6660		512	108.1	2	2	2	3	10	24	25	15	8	4	3	2	602	22	1.361	55.4	16.2
14	Couldrey	8NP002	118		684	2.6	2	1	2	8	28	28	11	4	3	3	3	2	26.36	23	1.292	0.469	0.206
14	Dore	8KA001	410	1910	1122	14.6	1	1	1	2	11	25	24	16	9	5	2	2	121.5	40	1.249	5.39	0.916
14	Elk - Fernie	8NK002	3110	1800	493	48.6	2	2	3	6	22	28	13	7	5	4	3	3	490	33	1.641	17.3	6.72
14	Elk - Natal	8NK016	1860	1910	441	26.0	2	2	2	4	19	32	17	8	5	4	3	2	273	28	1.648	11.1	3.41
14	Elk - Phillips	8NK005	4450		541	76.3	2	2	3	7	25	29	12	6	4	4	3	3	774	39	1.510	23.8	10.6
14	Elk - Weary	8NK027	335	2090	676	7.2	1	1	1	3	16	27	17	10	6	4	2	2	65.1	25	1.703	3.23	0.568
14	Fernie (f)	1152850	25	1001	659	0.5	7	7	47	15	5	0	0	0	0	0	10	10	15.9	47	1.340	na	na
14	Fernie (s)	1152850	25	1001	659	0.5	7	7	47	15	5	0	0	0	0	0	10	10	22.8	68	1.346	na	na
14	Flathead	8NP001	1060	1700	764	25.7	2	1	2	8	33	30	9	4	3	3	3	2	357	56	1.528	4.94	2.42
14	Fording	8NK021	105	2120	555	1.8	1	1	1	5	26	33	13	6	4	3	2	1	37.6	36	2.008	0.411	0.113
14	Fraser - Hansard	8KA004	18000		824	470.0	2	2	2	5	15	25	18	12	8	6	4	2	2542	43	1.245	213	61.8
14	Fraser - McBride	8KA005	6890		906	197.8	1	1	1	2	10	25	23	16	9	5	3	2	1140	41	1.204	106	21.5
14	Fraser - Red Pass	8KA007	1730	1900	857	47.0	1	1	1	1	10	28	24	15	8	5	3	2	328	35	1.323	21.6	4.15
14	Gold - Bachelor	8NB013	135	2190	1603	6.9	1	1	1	1	8	21	27	23	10	4	2	1	73.8	58	1.407	2.59	0.256
14	Gold - Palmer	8NB014	426	2100	1376	18.6	1	1	1	2	10	23	26	19	9	4	2	1	153	49	1.428	15	0.893
14	Golden (f)	1173210	25	785	105	0.1	0	0	84	16	0	0	0	0	0	0	0	0	18.7	56	1.465	na	na
14	Grave	8NK019	83.9		426	1.1	2	2	3	9	26	23	10	6	4	4	3	3	12.52	14	1.707	0.345	0.16
14	Howell	8NP003	145	1810	645	3.0	2	1	2	9	28	23	10	5	3	3	3	2	27.9	21	1.461	0.691	0.267
14	Jasper (m)	3053520	25	1061	30	0.0	0	0	0	100	0	0	0	0	0	0	0	0	18.1	54	1.613	na	na
14	Kakwa	7GB002	3300		378	39.5	1	1	1	3	18	26	18	10	6	5	2	2	920	59	3.875	9.16	na
14	Kicking Horse	8NA006	1840	1900	714	41.6	1	1	1	3	13	25	23	15	8	4	2	2	347	35	2.156	20	3.35
14	Kimberly PCC (f)	1154203	25	889	43	0.0	0	0	69	31	0	0	0	0	0	0	0	0	17.6	52	1.409	na	na
14	Kootenay - Canal Flats	8NF002	5390		522	89.2	2	2	2	3	16	30	20	10	6	4	3	2	752	33	1.284	42.9	11.4
14	Kootenay - Crossing	8NF001	414	1610	382	5.0	1	0	0	2	20	35	21	9	5	3	2	1	46.3	15	1.320	1.5	0.0388
14	Kootenay - Ft Steele	8NG065	11400		486	175.6	2	2	2	4	17	31	19	9	5	4	3	2	1349	33	1.340	71.2	23.6
14	Kootenay - Skookumchuck	8NG053	7120		494	111.5	2	2	2	3	16	31	20	10	6	4	3	2	892	31	1.356	53.6	15.3
14	Line	8NK022	138	1960	498	2.2	2	2	2	4	23	30	12	7	4	4	3	2	38.5	30	2.093	0.677	0.303
14	Mark	8NG085	102	1780	430	1.4	2	1	1	4	35	36	9	3	2	3	2	2	24.3	24	1.288	0.216	0.12
14	Mather	8NG076	130	1520	310	1.3	2	2	2	9	27	27	10	5	3	3	3	2	12.3	10	1.232	0.281	0.131
14	McBride (f)	1094955	25	771	164	0.1	0	2	8	84	6	0	0	0	0	0	0	0	22.4	67	1.527	na	na
14	McGregor	8KB003	4800	1200	1488	226.3	2	1	2	5	18	23	16	10	8	8	5	3	1600	77	1.459	83.7	20.8
14	McKale	8KA009	253	1840	1085	8.7	1	1	1	2	13	29	21	9	6	5	3	2	84.4	41	1.208	2.74	0.701
14	Michel	8NK020	620	1760	574	11.3	1	1	2	7	33	29	8	4	3	3	3	2	168	40	1.647	2.05	0.993
14	Miette	7AA001	630		541	10.8	1	1	1	1	13	31	21	11	7	4	2	1	107.5	25	1.284	3.97	0.427
14	Mistaya	5DA007	249		827	6.5	1	1	1	1	8	21	26	22	11	5	2	1	40.1	20	1.152	3.46	0.343
14	Moose	8KA008	460	2020	980	14.3	1	1	1	1	12	28	24	16	8	5	2	1	154.5	47	1.371	5.44	0.697
14	Moyie - Eastport	8NH006	1480		417	19.6	2	2	4	14	39	25	6	2	1	1	3	2	213	26	1.240	1.25	1.17
14	Moyie - Negro	8NH120	235	1630	667	5.0	1	1	2	9	41	30	6	1	1	2	3	2	85.2	44	1.304	0.114	0.11
14	Muller	8KB006	103	1360	1503	4.9	1	1	1	5	22	25	14	7	7	7	4	2	54.2	53	1.326	0.817	0.252
14	North Saskachewan	5DA009	1920		852	51.8	1	1	1	1	7	21	27	24	11	4	2	1	323	32	1.160	26.5	3.42

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Zone No.	Station Name	Number	Drainage Area	Median Elevation	Normal Annual Runoff		Monthly Distribution (%)												10 - Year Peak Flow		Ratio 100-Yr:10-Yr	10 - Year 7-Day Low Flow	
							Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	for D.A.	for 100 km²	Peak Flow	Jun-Sep	Annual
			(km²)	(m)	(mm)	(m³/s)													(m³/s)	(m³/s)		(m³/s)	(m³/s)
14	Palliser	8NF006	653		736	15.2	2	1	1	3	17	29	20	10	6	4	3	2	136	31	1.395	6.51	1.64
14	Racehorse	5AA027	217		369	2.5	1	1	1	6	34	32	9	5	3	3	2	1	61.5	33	1.927	0.372	na
14	Silverhorn	5DA010	20.7		714	0.5	1	1	1	1	9	26	28	14	8	3	2	1	8.28	29	1.793	0.187	0.019
14	Smoky - Helit	7GA001	3840		668	81.3	1	1	1	2	12	26	21	14	8	5	3	2	702	40	1.787	39.2	7.83
14	Split	8NB016	80.5	1990	682	1.7	2	1	1	2	13	24	22	12	8	5	3	2	14	17	1.365	0.812	0.192
14	St Mary - Marysville	8NG046	1470	1810	874	40.7	2	1	2	5	22	34	17	6	4	3	3	2	404	49	1.312	9.34	4.64
14	St Mary - Morris	8NG077	208	1870	1100	7.3	1	1	1	6	22	31	16	6	4	3	3	2	78.8	44	1.287	1.18	0.537
14	St Mary - Wycliffe	8NG012	2390	1760	682	51.7	2	1	2	5	23	34	16	6	4	3	3	2	507	42	1.316	11.6	5.61
14	Stitt	8ND018	139	1950	1625	7.2	1	1	1	3	12	23	24	16	8	4	3	2	83.7	65	1.763	2.8	0.455
14	Swift	8KA012	133	1960	873	3.7	1	1	1	2	14	33	23	10	6	4	3	2	38.7	31	1.308	1.1	0.234
14	Whirlpool	7AA009	598		833	15.8	1	1	1	1	8	24	25	20	11	5	2	1	119.5	29	1.421	7.99	na
14	Yoak	12304500	1984		391	24.6	3	3	5	18	35	19	5	2	2	2	3	3	264	25	1.226	2.41	2.06
15	Big - Graveyard	8MB007	196	2110	469	2.9	1	1	1	3	16	25	23	15	7	4	2	1	37.6	22	1.969	0.91	0.129
15	Big - Groundhog	8MB006	1020		170	5.5	1	1	1	4	20	25	20	13	6	4	2	2	76	12	1.912	2.1	0.264
15	Bridge		3703		773	90.7	2	2	2	2	10	23	23	17	9	5	3	2	na	na	na	na	na
15	Cayoosh	8ME002	892	1860	624	17.6	3	2	2	3	14	29	22	9	4	4	3	3	158.7	28	1.502	na	na
15	Yalakom *	8ME025	578	1830	233	4.3	3	3	3	4	13	22	19	13	8	6	4	3	34.6	9	1.543	2.60	0.757
16A	Bings	8HA016	17.5	180	865	0.5	22	18	15	6	3	1	1	0	0	2	10	23	18.1	71	1.665	0.006	0.005
16A	Browns	8HB025	86	800	2025	5.5	10	8	7	10	15	11	3	1	1	8	12	12	185.7	209	1.297	0.032	0.031
16A	Chemainus	8HA001	355	625	1761	19.8	15	13	12	9	7	3	1	0	1	5	15	20	611	226	1.373	0.215	0.214
16A	Comox Lake	Inflow	470	752	2251	33.5	9	8	8	8	11	10	6	3	3	9	12	11	na	na	na	na	na
16A	Cowichan - Duncan	8HA011	826	472	2011	52.6	17	14	12	9	6	3	2	1	1	5	13	18	464	88	1.361	3.78	3.67
16A	Cruickshank*	8HB074	213	976	2814	19.0	8	8	8	7	12	11	6	4	2	7	11	8				2.52	2.07
16A	Cusheon	8HA026	8.31	150	511	0.1	19	20	15	6	2	0	-1	-1	0	0	8	19	na	na	na	na	na
16A	Dove *	8HB075	46.6	270	1342	1.981	16	12	11	8	4	2	1	0	0	4	13	16	58.7	107	1.148	0.000	0.001
16A	Koksilah	8HA003	221	510	1362	9.5	18	15	13	8	4	1	1	0	1	4	15	20	266	143	1.128	0.173	0.173
16A	Little Qualicum	8HB004	135	780	2057	8.8	13	11	9	8	9	7	3	1	2	7	13	16	147	116	1.714	0.481	0.466
16A	Mahood - Newton	8MH018	18.9	250	983	0.6	18	14	10	7	3	2	1	1	2	6	16	20	32.5	120	1.890	0.007	0.007
16A	Millstone	8HB032	94.3	257	884	2.6	21	15	13	7	4	1	0	0	0	2	11	17	47.9	50	1.452	0.002	0.002
16A	Nanaimo	8HB034	684	578	1813	39.3	14	13	11	8	7	4	2	1	2	7	14	16	987	218	1.459	2.45	2.42
16A	Nanaimo A (m)	1025370	25	30	587	0.5	26	20	16	3	0	0	0	0	0	0	4	32	22	65	1.382	na	na
16A	Nicomekl	8MH155	68.5	53	953	2.1	18	15	11	7	4	2	1	1	1	5	16	18	59.3	80	1.672	0.095	0.095
16A	Nile	8HB022	13.4	600	2392	1.02	15	13	11	8	6	3	2	2	2	8	13	16	58.9	285	2.054	0.105	0.0973
16A	Powell River A (l)	1046391	25	121	594	0.5	25	16	15	5	0	0	0	0	0	0	13	27	25.2	75	1.393	na	na
16A	Roberts	8GA047	32.6	536	1035	1.1	12	11	11	10	10	4	2	1	2	8	14	15	45.9	111	1.500	0.046	0.046
16A	Sooke	8HA005	72.6	326	1031	2.4	22	17	12	6	2	1	0	-1	0	3	15	22	na	na	na	na	na
16A	Tsable	8HB024	113	780	2176	7.8	13	10	9	8	10	7	3	1	1	9	13	15	344	313	1.399	0.198	0.174
16A	Tsolum	8HB011	258	230	1288	10.5	14	13	13	8	6	3	1	1	1	7	15	18	227	108	1.125	0.031	0.031
16A	Victoria A (r)	1018620	25	18	338	0.3	38	25	13	0	0	0	0	0	0	0	0	25	13.3	39	1.466	na	na
16B	Abbotsford A (r)	1100030	25	54	911	0.7	21	17	13	7	1	0	0	0	0	0	19	22	15.6	46	1.372	na	na
16B	Agassiz CDA (l)	1100120	25	15	1061	0.8	21	16	12	7	2	0	0	0	0	1	21	21	35.2	105	1.301	na	na
16B	Chilliwack	8MH001	1230	1240	1744	68.0	7	6	6	7	13	17	12	6	4	5	8	8	739	103	1.650	17	13.7
16B	Chilliwack L	8MH016	329		1887	19.7	6	5	5	6	13	19	15	8	5	5	8	7	108.6	43	1.438	5.42	3.91

* Short Record Station

Precipitation Station has an arbitrary drainage area of 25 km²

s - steep, i - intermediate, m - moderate, r - rolling, f - flat

Table 1 Watershed Summary Table

Zone No.	Name	Station Number	Drainage Area	Median Elevation	Normal Annual Runoff		Monthly Distribution (%)												10 - Year Peak Flow		Ratio 100-Yr:10-Yr	10 - Year 7-Day Low Flow	
							Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	for D.A.	for 100 km²	Peak Flow	Jun-Sep	Annual
			(km²)	(m)	(mm)	(m³/s)													(m³/s)	(m³/s)		(m³/s)	(m³/s)
168	Kanaka	8MH076	45.2	230	1995	2.9	14	12	10	9	6	4	3	1	3	7	14	16	132	246	1.650	0.080	0.077
168	Murray	8MH129	23.7	78.6	845	0.6	18	17	11	8	2	1	1	0	0	3	13	19	33.8	105	1.658	0.002	0.002
168	Noons	8GA065	2.634	773	3271	0.3	13	10	9	10	7	4	3	2	4	10	14	16	12.45	216	1.677	0.001	0.001
168	Salmon @ 72	8MH090	49	90	937	1.5	17	14	11	8	5	3	2	1	2	5	14	18	44.7	78	1.886	0.128	0.125
168	Sumas	8MH029	149		714	3.4	16	14	12	9	6	5	4	3	3	4	11	15	45.7	33	1.496	0.350	0.347
168	West	8MH098	11.4		1229	0.4	19	15	11	7	3	2	1	1	1	5	15	20	16.4	90	1.477	0.012	0.012
17	Ash	8HB023	378	134	1382	16.6	12	11	10	7	9	7	3	2	2	7	14	16	459	162	1.583	2.89	2.56
17	Campbell River A (l)	1021261	25	106	812	0.6	22	17	14	4	0	0	0	0	0	0	15	27	33.2	99	1.361	na	na
17	Carnation	8HB048	10.3	246	2620	0.9	14	13	10	6	4	3	2	1	2	9	17	16	55.4	330	1.414	0.007	0.007
17	Carnation - 150m	8HB069	2.95	519	2737	0.3	17	13	9	7	5	3	2	1	2	10	16	13	19.79	315	2.274	0.006	0.005
17	Cowichan - Lake	8HA002	596	510	2411	45.5	15	13	12	9	6	3	2	2	2	5	13	17	281	69	1.348	5.38	5.12
17	Englishman	8HB002	324	571	1404	14.4	13	14	10	8	6	4	2	0	1	6	16	17	590	234	1.242	0.235	0.219
17	Estevan Point (s)	1032730	25	7	2548	2.0	15	13	12	8	3	2	0	0	3	13	16	15	88.6	263	1.366	na	na
17	Gold	8HC001	1010		2770	88.7	11	9	8	8	10	8	4	2	3	11	14	13	2200	358	1.376	4.27	4.09
17	Jordan Res.	Inflow	144	640	2477	11.3	15	13	11	9	6	3	1	1	2	7	14	17	na	na	na	na	na
17	Jump	8HB041	62.2		2521	4.97	12	13	10	7	7	4	2	2	2	6	15	15	114.8	167	1.253	0.279	0.228
17	Kokish *	8HF003	269		1747	14.89	13	11	7	9	12	10	5	3	4	15	13	16	165	76	1.132	0.74	0.74
17	Oyster	8HD011	298	762	1498	14.1	9	8	8	9	12	11	6	2	2	7	13	11	308	131	1.243	0.735	0.626
17	Port Alberni A (s)	1036206	25	2	1270	1.0	19	19	14	5	0	0	0	0	0	0	19	23	51.8	154	1.274	na	na
17	Port Hardy A (l)	1026270	25	22	1257	1.0	18	12	9	6	1	0	0	0	0	15	19	19	43.6	129	1.360	na	na
17	Quinsam	8HD005	285	378	1261	11.4	14	11	12	9	7	6	3	3	3	5	13	15	128.1	56	1.624	1.35	1.35
17	Salmon Memekay	8HD007	437	2030	909	12.6	14	10	9	7	6	4	2	2	2	11	15	16	527	166	1.290	0.82	0.785
17	Salmon Sayward c	8HD006	1200		1856	70.6	10	9	9	9	11	9	5	2	3	10	13	12	1386	197	1.325	3.98	3.79
17	San Juan	8HA010	580	580	2642	48.6	16	13	11	8	5	2	1	1	2	8	16	18	1120	282	1.232	1.19	1.16
17	Sarita	8HB014	162	397	3848	19.8	15	12	11	7	4	2	2	1	2	10	16	16	678	464	1.609	0.377	0.367
17	Somass	8HB017	1280	524	2978	120.8	12	10	9	7	8	7	5	3	4	8	14	14	1056	143	1.229	23.5	23.4
17	Sproat	8HB008	347	430	3404	37.4	13	11	11	8	8	6	3	1	2	7	14	15	303	114	1.361	0.869	0.831
17	Stamp	8HB009	456	536	4257	61.5	10	9	8	7	9	8	6	4	5	9	13	12	355	108	1.273	17	16.1
17	Tofino A (l)	1038205	25	18	2666	2.1	15	13	12	8	3	1	0	0	2	13	16	16	60	178	1.283	na	na
17	Tsitika	8HF004	359	773	2022	23.0	10	8	7	8	9	8	4	2	3	9	14	11	772	283	1.540	0.98	0.906
17	U. Campbell		1173		2094	77.8	9	7	7	7	12	13	8	4	3	9	11	10	na	na	na	na	na
17	Ucona	8HC002	189	873	2985	17.9	11	8	7	7	10	9	6	3	4	10	13	12	721	437	2.219	1.15	0.974
17	Zeballos	8HE006	181	710	4703	27.0	12	9	7	7	7	6	4	3	6	13	13	13	904	567	1.438	3.37	3.27

* Short Record Station

Precipitation Station has an arbitrary drainage area of 25 km²

s - steep, l - intermediate, m - moderate, r - rolling, f - flat

Table 1 Watershed Summary Table

WATERSHED HYDROLOGIC ESTIMATES

Zone No.	Watershed	Drainage Area	Annual Runoff				10-Year Maximum Instantaneous Discharge				100-Year Maximum Instantaneous Discharge				10-Year Minumum 7-Day Discharge					
			Map Estimate		Observed	Estimate	Map Estimate		Observed	Estimate	Map Estimate		Observed	Estimate	June-September			Annual		
						Difference	100 km²	D.A.		Difference	100 km²	D.A.		Difference	Curve Est.	Observed	Est. Diff.	Curve Est.	Observed	Est. Diff.
		(km²)	(mm)	(m³/s)	(m³/s)	(%)	(m³/s)	(m³/s)	(m³/s)	(%)	(m³/s)	(m³/s)	(m³/s)	(%)	(m³/s)	(m³/s)	(%)	(m³/s)	(m³/s)	(%)
12	Fiftynine C. (08LF080)	36.4	50	0.058	0.059	-2	5	2.3	0.855	165	10	4.5	1.54	194	0.004	0.016	-75	0.004	0.015	-73
12	Groundhog C. (08MB009)	246	180	1.403	0.458	206	10	20	11.8	72	20	41	23.6	72	0.07	0.046	52	0.05	-	
12	Joe Ross C. (08LF094)	101	100	0.320	0.228	40	5	5.0	5.79	-13	10	10	11.9	-15	0.02	0.002	900	0.015	-	
15	Yalakom (08ME025)	575	200	3.64	4.27	-15	12	47	34.6	37	25	99	53.3	86	0.28	2.6	-89	0.15	0.757	-80
12	McDonald C. (08LF095)	20.4	125	0.081	0.058	39	7	2.0	2.2	-9	15	4.3	5.28	-18	0.0016	0.001	60	0.002	-	
14	Carbonate C. (08NA037)	7.8	500	0.124	0.092	34	25	3.4	0.989	241	32	4.3	1.40	208	0.017	0.044	-61	0.01	-	
12	Watching C. (08LF049)	71.2	100	0.226	0.467	-52	8	6.1	9.04	-32	20	15.3	14.5	6	0.012	0.054	-78	0.01	0.029	-66
17	Cruickshank R. (08HB074)	214	2000	13.6	19.0	-29	175	318	422	-25	275	500	494	1	0.9	2.52	-64	0.9	2.07	-57

Table 2 Watershed Hydrologic Estimates

Table 3 Document Order Form

(Reference Report: British Columbia Streamflow Inventory, March 1998)

Send Order to: Province of British Columbia
Ministry of Environment, Lands and Parks
Resources Inventory Branch
Water Inventory Section
Box 9344 STN PROV GOVT
Victoria, B.C. V8W 9M1

Name: _____

Company: _____

Address: _____

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Telephone: _____
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DOCUMENT	VERSION		QUANTITY	PRICE	TOTAL COST
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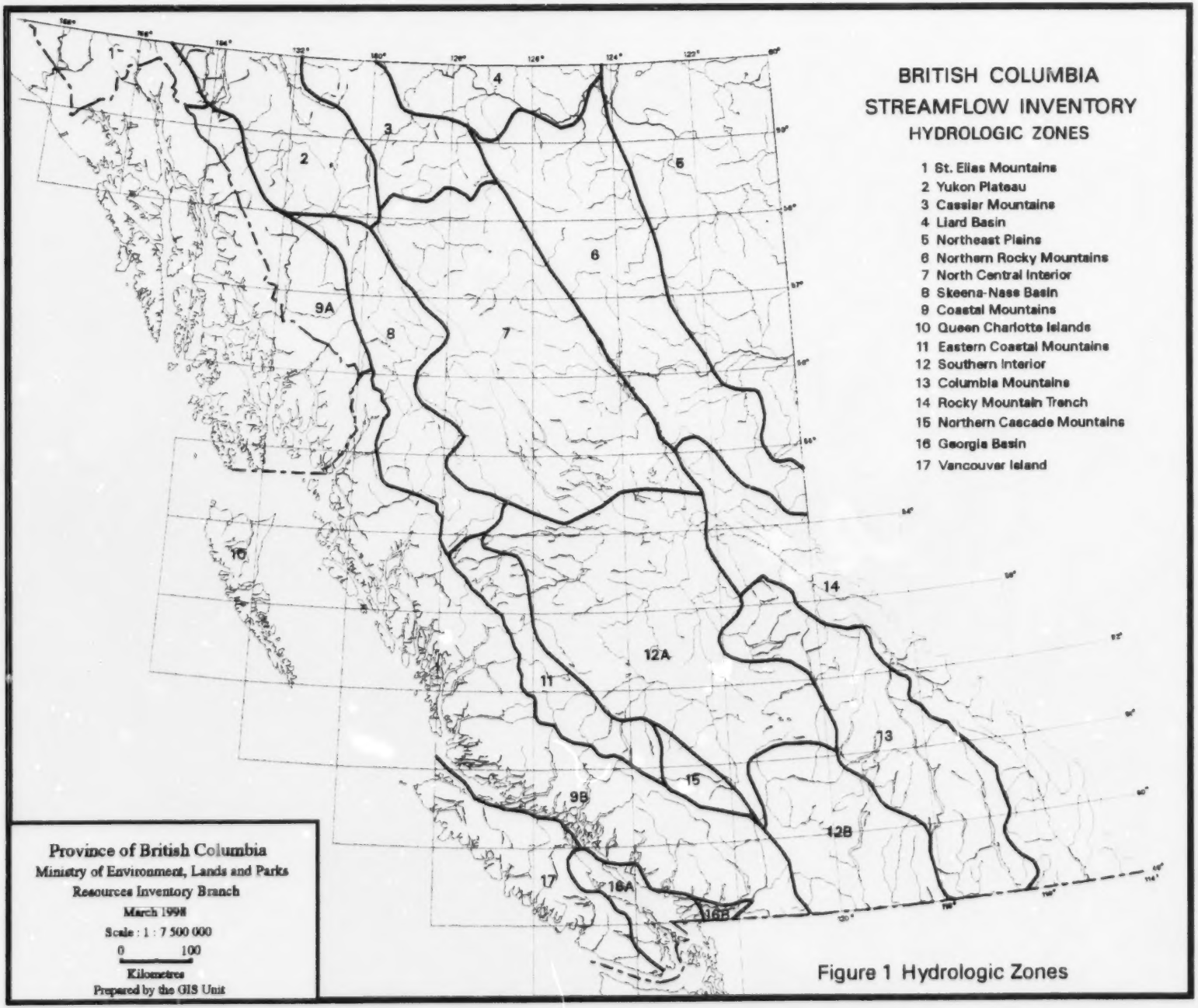


Figure 1 Hydrologic Zones

FRASER RIVER AT SHELLEY 8KB001

Monthly and Annual Discharge in m3/s — Drainage Area = 32400 km2 — Median Elevation = ? m

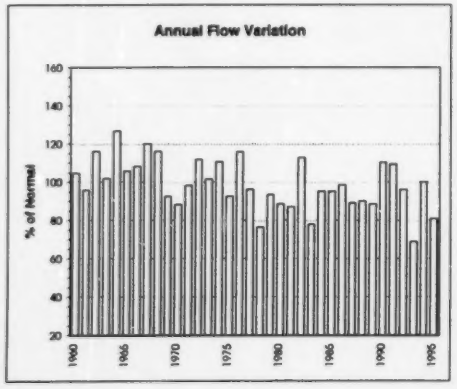
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1960	196	173	167	637	1320	1970	2130	1130	914	960	498	238	863
1961	193	193	183	653	1770	2060	1000	691	821	1060	623	200	789
1962	185	356	211	876	1400	2210	1960	1410	720	837	872	438	959
1963	258	313	297	751	1470	2130	1520	1010	907	787	368	249	840
1964	188	193	159	303	1580	3450	2080	1720	1030	1070	580	179	1046
1965	209	225	226	586	1700	2390	1700	1110	552	967	523	246	873
1966	191	164	173	623	2010	2230	1810	1250	721	782	456	261	894
1967	206	203	206	423	2060	3470	1880	1050	694	683	612	355	990
1968	244	289	468	593	1930	2350	2130	949	932	716	611	259	958
1969	171	153	161	638	1430	1730	933	1180	1030	732	593	378	763
1970	214	170	182	444	1590	2530	1220	782	652	494	256	181	728
1971	158	172	142	601	1870	2210	1530	924	664	607	516	283	810
1972	180	132	184	579	2250	3400	1640	907	494	680	420	201	923
1973	168	151	187	546	1950	2260	1480	807	641	983	521	319	838
1974	198	156	143	661	2030	2590	2190	1020	621	778	309	212	914
1975	151	141	121	279	1380	2060	1850	1060	679	568	604	213	762
1976	189	186	178	368	2240	2090	2130	1690	1080	616	382	275	956
1977	234	218	187	883	1600	2060	1710	1060	646	460	273	149	793
1978	135	128	131	508	989	1550	1210	841	738	666	429	210	630
1979	145	130	201	441	1920	2510	1780	744	510	430	231	156	770
1980	121	97	109	712	1680	1500	1160	736	952	635	411	625	730
1981	427	268	239	592	1860	1660	1220	820	490	308	475	222	718
1982	144	112	105	350	1950	2790	2010	1310	1230	586	342	189	930
1983	159	177	253	417	1080	1670	1370	775	601	447	534	207	643
1984	179	188	302	695	875	1940	1860	1000	1120	780	288	193	786
1985	168	179	226	840	1940	2100	1350	697	733	720	285	140	784
1986	166	137	406	780	1540	2840	1570	793	494	492	326	184	813
1987	253	305	381	804	1620	1900	1070	916	471	359	482	241	735
1988	133	123	164	1050	2060	1870	1120	805	495	485	397	211	744
1989	170	158	142	689	1600	1950	1170	923	461	421	680	359	729
1990	293	181	177	1010	1870	3200	1720	867	473	458	388	265	911
1991	204	338	260	997	1970	2200	1770	1120	741	578	363	266	903
1992	197	194	526	1030	1520	2000	878	595	881	938	543	216	793
1993	154	155	210	657	1620	1160	766	688	402	323	389	248	567
1994	243	228	413	1350	1970	1930	1610	731	456	474	267	193	825
1995	154	171	218	671	1400	1590	1100	1050	478	560	317	271	668
Normal	194	187	208	623	1708	2290	1579	995	722	654	460	253	825
mm	16	14	17	50	141	183	131	82	58	54	37	21	804

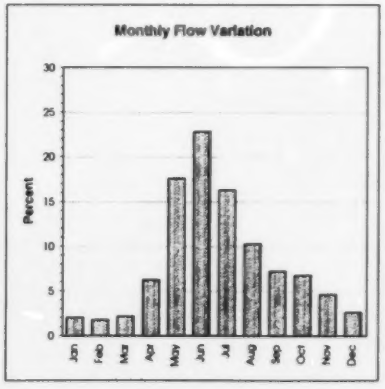
Instantaneous Peak Flow

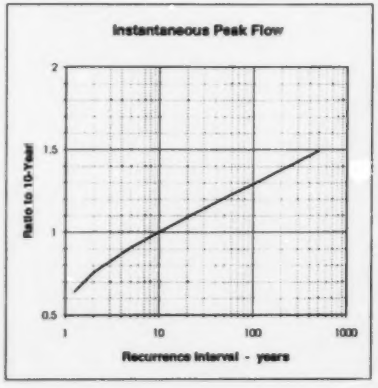
date	m3/s
Jul 01	3260
Jun 07	3230
Jun 28	3310
Jun 13	3000
Jun 14	4080
Jun 04	3200
May 11	3260
Jun 04	4130
Jun 29	3230
Jun 06	2440
Jun 06	3960
Jun 16	3280
Jun 14	5010
Jun 26	3340
Jun 24	3480
Jul 08	2490
Jun 21	3280
Jun 10	3000
Jun 07	2240
Jun 07	4160
Jun 19	2500
May 28	3140
Sep 10	3310
Jun 01	2220
Jun 30	2720
May 26	3700
Jun 02	4270
Jun 14	2930
May 15	3310
Jun 16	2600
Jun 02	4840
May 21	2930
Jun 15	2570
May 16	2749
Jul 05	2680
May 17	2310
Average	3227
10-Year	4138

7-Day Low Flow

Year	Jun-Sep	Annual
1960	710	147
1961	564	164
1962	585	158
1963	740	189
1964	512	149
1965	397	161
1966	593	148
1967	574	192
1968	648	201
1969	716	144
1970	432	158
1971	553	131
1972	407	124
1973	417	146
1974	449	138
1975	469	115
1976	663	175
1977	483	136
1978	563	124
1979	460	127
1980	641	92.0
1981	340	196
1982	724	96.4
1983	496	155
1984	780	165
1985	489	132
1986	334	123
1987	387	189
1988	318	110
1989	401	137
1990	419	168
1991	487	173
1992	399	150
1993	282	130
1994	425	181
1995	338	148
	505	149
	353	114







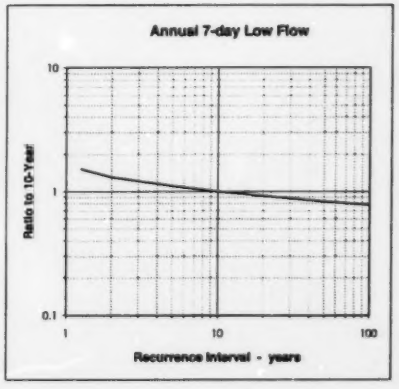
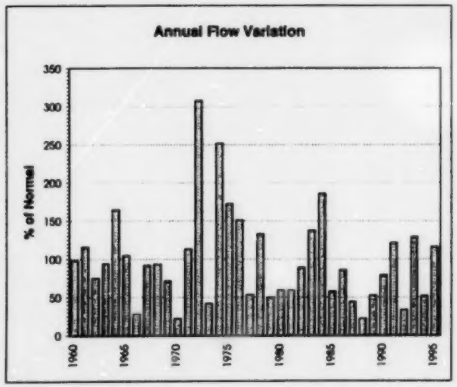


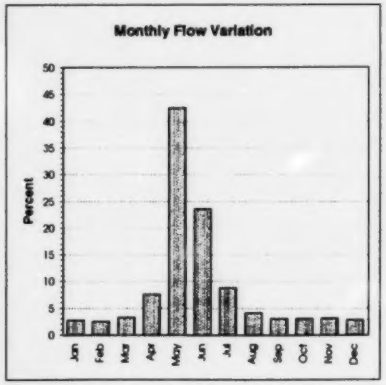
Figure 2 Hydrometric Station Complete Datasheet

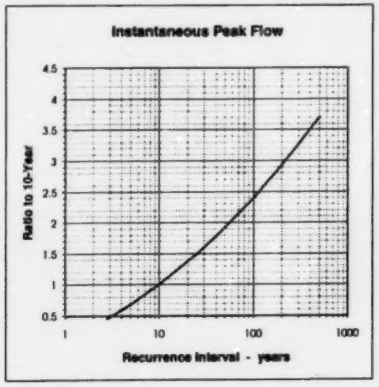
GREATA CREEK NEAR THE MOUTH 8NM173

Monthly and Annual Discharge in m3/s — Drainage Area = 42.3 km2 — Median Elevation = 1280 m — Instantaneous Peak Flow — 7-Day Low Flow

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean	date	m3/s	Jun-Sep	Annual	Year
1960													0.074					1960
1961													0.088					1961
1962													0.056					1962
1963													0.071					1963
1964													0.124					1964
1965													0.079					1965
1966													0.021					1966
1967													0.069					1967
1968													0.070					1968
1969													0.054					1969
1970										0.017	0.019	0.014	0.017					1970
1971	0.013	0.022	0.020	0.044	0.460	0.247	0.085	0.029	0.024	0.025	0.025	0.025	0.085	May 13	1.230	0.020	0.012	1971
1972	0.022	0.022	0.032	0.075	1.410	0.706	0.218	0.090	0.055	0.049	0.057	0.041	0.233	May 30	2.370	0.050	0.022	1972
1973	0.042	0.034	0.034	0.050	0.071	0.050	0.022	0.007	0.012	0.020	0.021	0.019	0.032	May 24	0.085	0.006	0.006	1973
1974	0.017	0.021	0.027	0.162	1.050	0.566	0.183	0.074	0.044	0.042	0.045	0.041	0.191	May 07	1.690	0.040	0.012	1974
1975	0.039	0.041	0.037	0.065	0.621	0.441	0.114	0.052	0.036	0.037	0.034	0.037	0.130	May 16	1.200	0.033	0.031	1975
1976	0.033	0.030	0.028	0.064	0.507	0.252	0.108	0.110	0.085	0.061	0.044	0.041	0.114	May 10	0.898	0.071	0.028	1976
1977	0.032	0.032	0.035	0.074	0.114	0.077	0.031	0.013	0.016	0.019	0.020	0.017	0.040	Apr 28	0.176	0.008	0.008	1977
1978	0.016	0.015	0.026	0.078	0.570	0.228	0.072	0.034	0.039	0.034	0.050	0.036	0.101	May 21	0.960	0.030	0.014	1978
1979	0.032	0.031	0.030	0.047	0.138	0.065	0.033	0.014	0.015	0.015	0.013	0.015	0.037	May 05	0.212	0.008	0.008	1979
1980	0.016	0.017	0.020	0.059	0.190	0.103	0.047	0.018	0.018	0.017	0.016	0.016	0.045	May 16	0.266	0.013	0.012	1980
1981	0.017	0.018	0.023	0.034	0.154	0.113	0.063	0.025	0.019	0.026	0.022	0.017	0.044	May 25	0.258	0.014	0.014	1981
1982	0.014	0.016	0.023	0.030	0.277	0.196	0.097	0.039	0.027	0.026	0.026	0.029	0.067	May 26	0.611	0.023	0.012	1982
1983	0.025	0.024	0.034	0.140	0.556	0.172	0.099	0.050	0.039	0.033	0.039	0.028	0.104	May 17	0.705	0.031	0.022	1983
1984	0.042	0.050	0.057	0.126	0.520	0.532	0.141	0.061	0.037	0.037	0.040	0.042	0.140	May 30	1.050	0.033	0.033	1984
1985	0.032	0.032	0.038	0.062	0.159	0.081	0.025	0.013	0.018	0.023	0.021	0.019	0.044	May 20	0.314	0.009	0.009	1985
1986	0.021	0.024	0.033	0.065	0.290	0.161	0.058	0.025	0.023	0.025	0.024	0.023	0.065	May 27	0.717	0.018	0.018	1986
1987	0.023	0.024	0.032	0.063	0.137	0.046	0.021	0.008	0.006	0.010	0.014	0.013	0.033	May 01	0.334	0.004	0.004	1987
1988	0.010	0.012	0.017	0.034	0.040	0.029	0.012	0.005	0.005	0.010	0.014	0.013	0.017	Apr 18	0.076	0.000	0.000	1988
1989	0.012	0.010	0.014	0.044	0.158	0.073	0.046	0.027	0.019	0.020	0.028	0.024	0.040	May 28	0.316	0.016	0.009	1989
1990	0.023	0.021	0.027	0.079	0.140	0.209	0.084	0.033	0.022	0.022	0.027	0.025	0.059	Jun 11	0.300	0.018	0.018	1990
1991	0.026	0.028	0.026	0.092	0.418	0.225	0.104	0.054	0.035	0.027	0.032	0.028	0.092	May 20	0.704	0.029	0.023	1991
1992	0.027	0.024	0.034	0.053	0.046	0.029	0.024	0.009	0.008	0.014	0.018	0.015	0.025	Jun 13	0.107	0.007	0.007	1992
1993	0.015	0.014	0.018	0.058	0.364	0.153	0.135	0.173	0.084	0.056	0.045	0.043	0.097	May 15	0.676	0.065	0.012	1993
1994	0.035	0.029	0.039	0.100	0.098	0.076	0.023	0.018	0.009	0.015	0.014	0.014	0.039	Apr 20	0.175	0.007	0.007	1994
1995	0.015	0.019	0.021	0.074	0.443	0.189	0.069	0.047	0.032	0.036	0.040	0.040	0.088	May 17	0.779	0.029	0.012	1995
Normal	0.024	0.025	0.029	0.070	0.378	0.217	0.078	0.036	0.028	0.027	0.029	0.025	0.076	Average	0.648	0.023	0.014	m3/s
mm	2	1	2	4	24	13	5	2	2	2	2	2	56	10-Year	1.44	0.006	0.006	m3/s







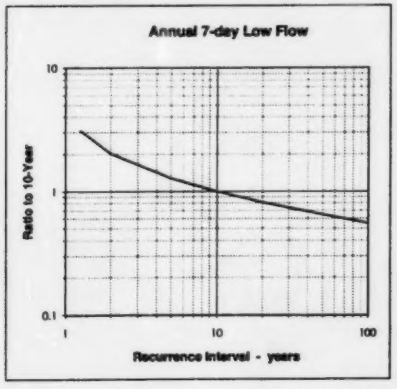
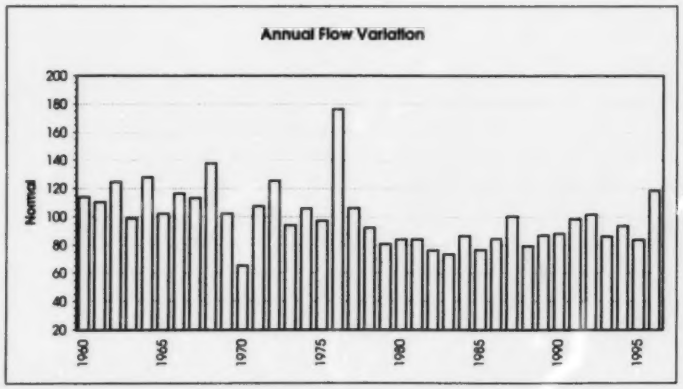


Figure 3 Hydrometric Station Partial Datasheet

NECHAKO RESERVOIR INFLOW

Monthly and Annual Inflow in m3/s d.a. = 14,132 km2 median elevation = m

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean	% of Normal	Year
1960	117	86	90	178	460	532	401	215	135	215	135	108	223	114	1960
1961	98	131	86	145	562	505	301	145	150	184	179	94	215	110	1961
1962	138	142	68	124	376	611	419	245	115	253	248	178	244	124	1962
1963	110	114	78	118	367	383	359	180	143	202	138	114	193	99	1963
1964	130	104	71	79	296	816	583	280	195	242	130	73	250	128	1964
1965	89	89	69	123	342	419	322	163	95	350	200	124	200	102	1965
1966	104	69	80	194	426	538	395	199	183	221	200	116	228	116	1966
1967	85	95	65	61	466	726	332	180	141	254	144	98	221	113	1967
1968	165	156	101	103	644	553	419	248	184	268	253	129	269	138	1968
1969	83	43	60	120	437	640	236	160	162	119	192	137	199	102	1969
1970	62	51	52	63	261	396	240	146	91	60	52	53	128	65	1970
1971	90	70	58	69	388	624	443	223	155	173	129	88	210	107	1971
1972	95	85	90	92	542	783	553	230	128	119	126	92	245	125	1972
1973	113	68	53	89	374	473	374	184	160	142	79	84	183	94	1973
1974	90	62	55	111	406	555	416	215	117	250	73	118	207	106	1974
1975	91	89	60	70	324	517	343	199	101	108	235	138	190	97	1975
1976	129	97	85	142	676	837	710	476	282	226	265	201	345	176	1976
1977	176	148	109	287	414	382	289	180	117	173	128	88	208	106	1977
1978	69	53	51	108	364	487	245	181	100	141	240	122	181	92	1978
1979	51	70	55	100	522	443	268	135	87	66	22	62	158	81	1979
1980	65	52	37	79	336	321	190	105	169	160	182	271	164	84	1980
1981	150	92	67	83	462	369	259	139	83	81	129	49	164	84	1981
1982	72	59	38	31	270	561	265	125	127	116	72	53	149	76	1982
1983	69	52	38	142	331	368	272	137	95	82	90	39	143	73	1983
1984	104	95	85	117	265	382	289	197	125	166	109	93	169	86	1984
1985	63	80	59	95	405	454	292	124	72	78	35	38	150	77	1985
1986	71	55	63	96	303	611	327	157	67	72	97	53	165	84	1986
1987	77	70	63	129	436	517	352	160	141	142	190	72	196	100	1987
1988	66	62	53	88	314	398	225	154	128	143	109	110	154	79	1988
1989	92	56	48	105	432	397	215	158	63	69	180	213	170	87	1989
1990	134	88	56	157	413	431	277	125	40	98	111	133	172	88	1990
1991	84	99	67	160	479	508	302	155	78	109	145	115	192	98	1991
1992	99	125	140	240	362	468	245	94	162	232	139	86	199	102	1992
1993	51	61	61	126	544	436	231	136	46	66	171	87	169	86	1993
1994	88	84	85	258	435	397	319	106	117	112	101	89	183	94	1994
1995	63	66	57	115	535	445	254	132	68	72	74	77	164	84	1995
1996	154	85	74	303	425	589	391	198	184	149	131	92	231	118	1996
normal	98	83	65	111	405	517	340	185	127	159	145	108	196		normal
mm	19	14	12	20	77	95	65	35	23	30	27	20	437		mm



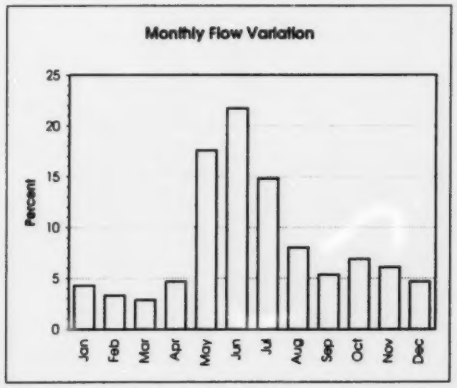
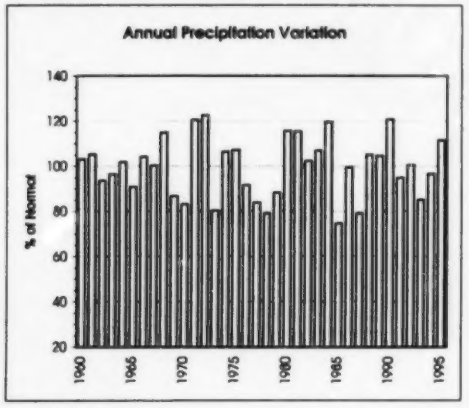


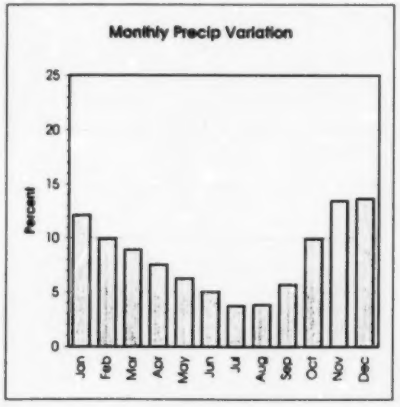
Figure 4 Reservoir Inflow Datasheet

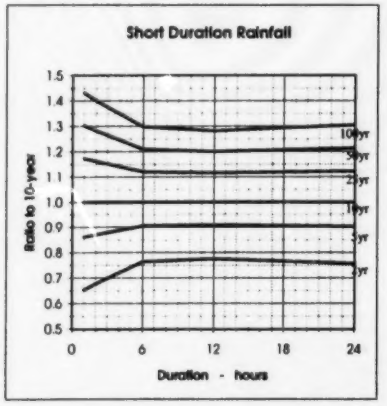
MISSION WEST ABBEY 1105192

Monthly and Annual Precipitation in mm — location: 49-09, 122-16, 221 m — Maximum Daily Precip — Short Duration Rainfall

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	month	mm	24h	12h	6h	2h	1h	Year
1960	235	175	204	140	253	58	1	108	65	278	208	176	1900	May	80						1960
1961	310	286	200	88	142	33	27	76	76	249	176	277	1938	Nov	76						1961
1962	235	93	119	131	89	69	59	163	118	102	272	275	1724	Jan	60						1962
1963	70	184	94	148	57	71	126	39	71	222	350	347	1778	Nov	52	61	44	40	21	18	1963
1964	240	105	198	105	101	145	148	139	188	91	255	164	1877	Nov	59	62	46	42	31	17	1964
1965	259	307	52	111	98	20	11	126	42	220	194	237	1674	Feb	64	72	53	31	18	10	1965
1966	206	116	166	105	109	59	91	46	130	242	232	417	1920	Dec	55	69	50	36	26	16	1966
1967	361	195	137	89	90	34	28	15	90	389	166	253	1846	Oct	53	63	49	34	16	13	1967
1968	319	194	206	133	105	128	57	127	133	245	197	271	2115	Jan	102	104	55	40	26	24	1968
1969	218	100	148	188	60	54	34	77	260	127	155	176	1599	Jan	46	77	54	35	16	12	1969
1970	193	94	108	196	51	76	74	10	131	142	215	242	1533	Nov	48	58	46	31	28	25	1970
1971	403	193	240	99	91	159	34	34	154	236	314	263	2219	Dec	70	77	53	35	18	11	1971
1972	175	313	317	180	110	118	180	58	178	52	160	418	2258	Dec	86	85	53	39	24	17	1972
1973	142	98	144	64	105	94	22	37	42	199	267	263	1477	Oct	55	56	44	26	15	11	1973
1974	368	252	229	158	144	68	86	12	43	56	255	291	1961	Feb	74	80	48	27	14	11	1974
1975	187	180	128	79	77	83	40	144	12	387	283	377	1976	Dec	60	88	53	35	17	10	1975
1976	256	192	120	145	139	107	73	135	95	127	107	187	1684	Sep	56	58	42	30	16	10	1976
1977	134	102	178	87	139	32	70	87	83	159	228	246	1544	Jan	62	64	56	39	19	14	1977
1978	116	109	160	124	105	89	21	150	173	83	195	133	1457	Nov	48	61	47	39	17	11	1978
1979	57	228	128	140	72	84	23	42	135	155	80	484	1627	Dec	88	89	49	33	25	16	1979
1980	121	270	184	178	131	175	69	78	135	88	348	352	2129	Dec	102	102	85	50	20	14	1980
1981	79	195	158	198	119	302	62	34	135	290	318	236	2126	Nov	70	74	60	48	32	24	1981
1982	378	402	102	115	62	61	93	46	62	132	226	207	1885	Feb	83	76	56	38	18	9	1982
1983	295	233	146	114	71	134	235	52	121	129	353	88	1968	Jul	87	97	60	36	18	13	1983
1984	378	194	197	174	231	103	22	66	135	209	290	201	2200	Jan	89	97	55	41	23	18	1984
1985	49	121	123	239	107	76	2	30	82	328	150	69	1376	Oct	65	68	45	28	11	7	1985
1986	233	217	194	145	183	67	83	5	109	127	294	178	1835	Feb	114	98	80	62	41	26	1986
1987	211	73	209	186	183	33	97	19	36	52	140	218	1456	Mar	59	59	43	29	23	13	1987
1988	117	127	188	212	194	75	90	40	129	230	306	230	1937	Oct	74	75	66	38	20	12	1988
1989	279	71	216	142	189	93	46	135	14	178	404	160	1927	Nov	80	89	69	46	28	17	1989
1990	297	245	132	97	92	140	55	89	54	248	497	282	2227	Nov	112	115	60	38	27	22	1990
1991	165	189	94	202	133	114	38	222	14	62	329	184	1747	Aug	61						1991
1992	406	161	48	243	43	103	96	38	136	137	286	158	1854	Apr	69						1992
1993	184	8	196	224	142	147	118	38	19	124	133	238	1570	Jan	66						1993
1994	170	221	148	113	60	184	33	30	138	162	262	263	1783	Feb	46						1994
1995	211	209	194	91	37	86	95	101	55	254	442	278	2054	Feb	67						1995
normal	223	183	164	139	115	93	68	70	105	183	248	251	1842	average	70	78	54	37	22	15	average
excess	212	171	140	95	39	0	0	0	0	70	230	232	1189	10-year	94	99	68	47	30	22	10-year







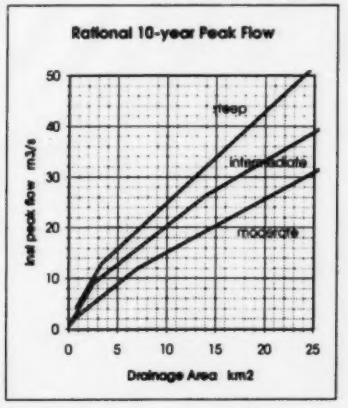


Figure 5 Precipitation Station Complete Datasheet

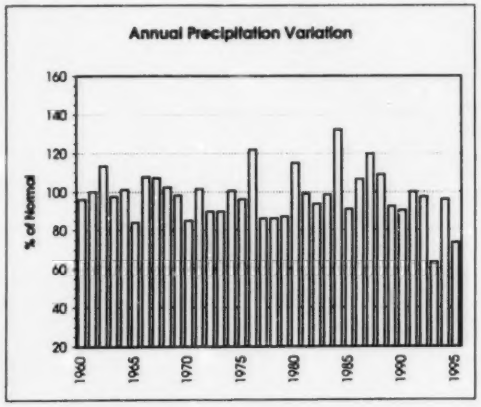
MCINNES ISLAND 1065010

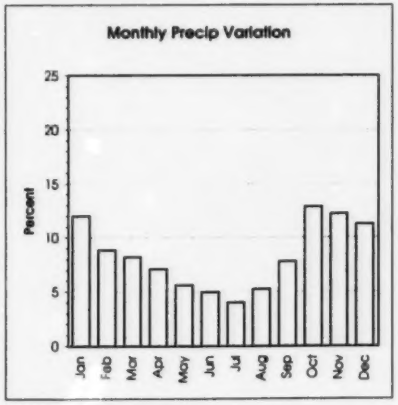
Monthly and Annual Precipitation in mm

location: 52°16, 128°43, 25 m

Maximum Daily Precip

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	month	mm	Year
1960	220	169	478	177	137	83	124	190	181	382	235	197	2571	Mar	80	1960
1961	435	358	222	182	82	92	10	121	293	385	228	267	2675	Oct	90	1961
1962	540	119	108	209	96	162	35	248	165	539	447	367	3035	Oct	156	1962
1963	173	310	133	137	111	145	98	33	306	493	432	241	2611	Oct	59	1963
1964	305	346	282	263	109	86	154	164	182	401	235	181	2707	Apr	69	1964
1965	401	340	23	144	101	57	62	18	129	466	226	288	2255	Sep	66	1965
1966	343	261	284	121	255	144	79	268	192	324	286	326	2883	Jan	64	1966
1967	391	288	185	54	269	42	185	100	282	492	266	313	2866	Oct	71	1967
1968	389	156	216	366	71	132	97	85	227	449	330	221	2736	Jan	70	1968
1969	128	163	155	189	103	39	132	479	187	185	489	381	2630	Nov	63	1969
1970	233	143	197	192	287	53	193	130	284	192	160	212	2275	Aug	60	1970
1971	479	207	240	181	67	182	38	235	142	332	428	184	2715	Jan	70	1971
1972	248	265	284	304	122	142	97	52	154	275	260	206	2407	Oct	74	1972
1973	371	114	213	112	174	153	108	33	269	332	185	340	2404	Sep	79	1973
1974	306	330	168	259	214	147	107	23	102	336	290	408	2690	Oct	76	1974
1975	269	97	163	149	121	178	106	228	111	375	492	280	2568	Nov	122	1975
1976	315	301	306	207	303	257	219	277	139	363	276	300	3263	Dec	83	1976
1977	147	221	331	136	98	155	138	51	168	351	326	189	2309	Oct	85	1977
1978	114	165	255	98	114	27	28	296	241	293	397	277	2305	Nov	90	1978
1979	157	234	188	125	232	135	113	54	268	175	167	486	2335	Dec	83	1979
1980	302	135	252	200	113	26	314	126	285	263	393	664	3073	Sep	104	1980
1981	184	244	284	328	144	202	21	103	266	196	456	224	2651	Sep	99	1981
1982	462	313	141	178	160	12	74	97	244	345	204	280	2510	Jan	89	1982
1983	327	230	178	79	73	326	195	141	314	253	344	180	2638	Nov	67	1983
1984	685	299	232	304	202	193	100	266	219	373	293	376	3540	Jan	319	1984
1985	166	468	361	220	143	110	43	55	218	407	104	138	2432	Feb	99	1985
1986	395	167	241	293	246	163	137	40	192	284	451	245	2853	Nov	84	1986
1987	363	309	212	329	133	246	49	74	319	367	532	273	3205	Jun	96	1987
1988	302	292	325	126	195	143	206	169	166	321	355	318	2917	Sep	71	1988
1989	389	39	238	108	118	113	68	64	52	354	445	488	2476	Nov	80	1989
1990	332	201	166	123	50	105	13	161	130	403	336	399	2419	Oct	94	1990
1991	232	252	211	140	92	88	134	238	112	231	440	505	2673	Aug	78	1991
1992	350	249	135	174	225	47	36	97	395	262	375	263	2608	Feb	84	1992
1993	92	106	150	193	166	66	42	85	29	255	369	144	1697			1993
1994	331	152	184	186	154	100	91	70	372	310	343	277	2569			1994
1995	149	140	153	144	48	61	221	128	73	343	280	232	1971			1995
normal	322	237	219	191	150	132	107	140	208	344	328	302	2679	average	90	average
excess	307	223	189	147	84	37	0	39	136	299	310	272	2042	10-year	117	10-year





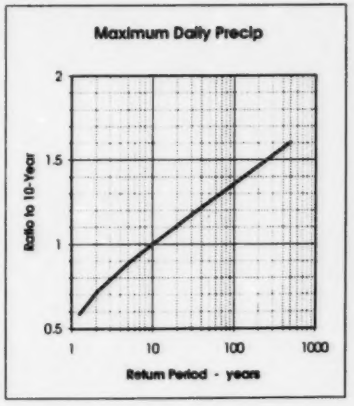


Figure 6 Precipitation Station Partial Datasheet

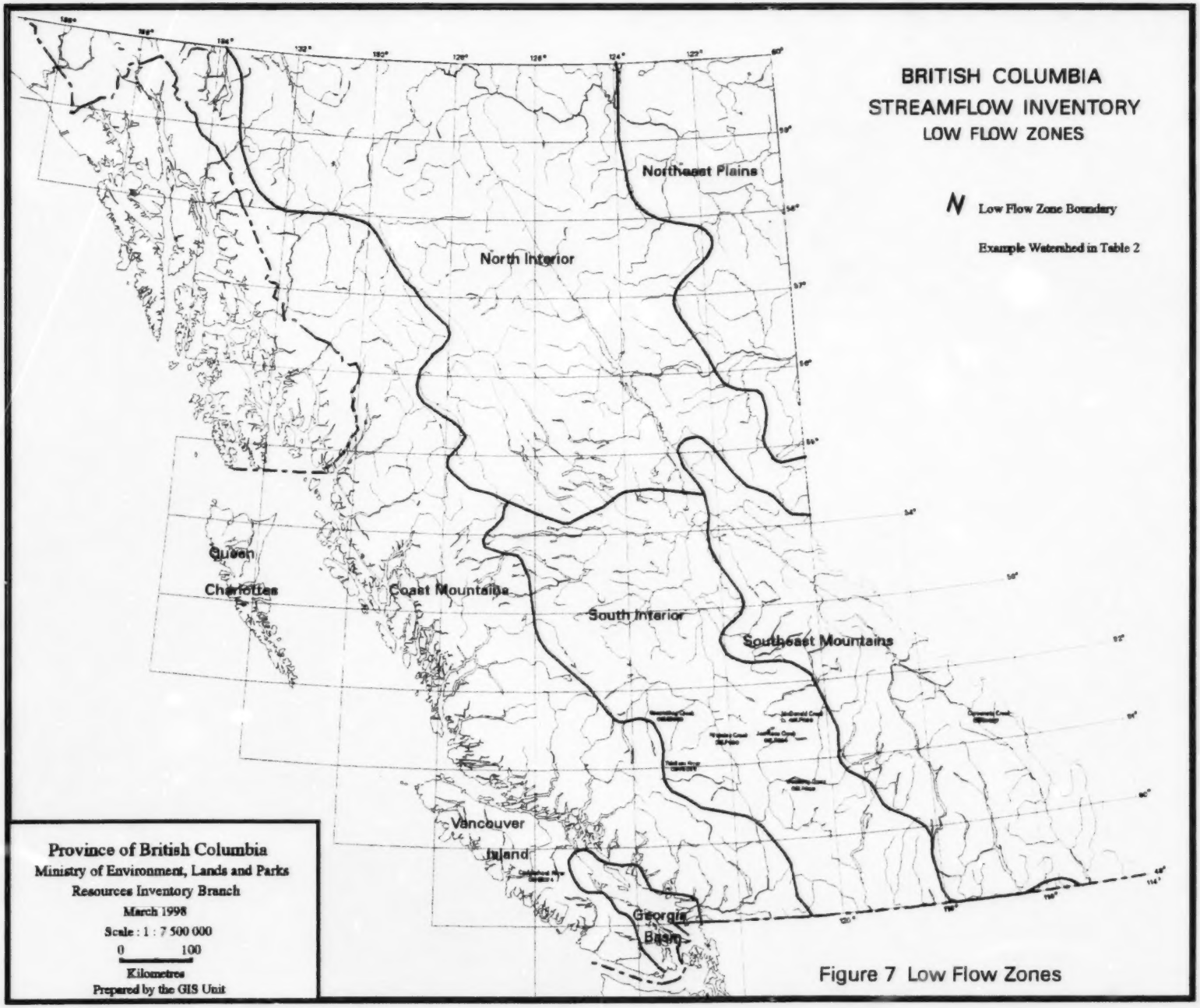


Figure 7 Low Flow Zones

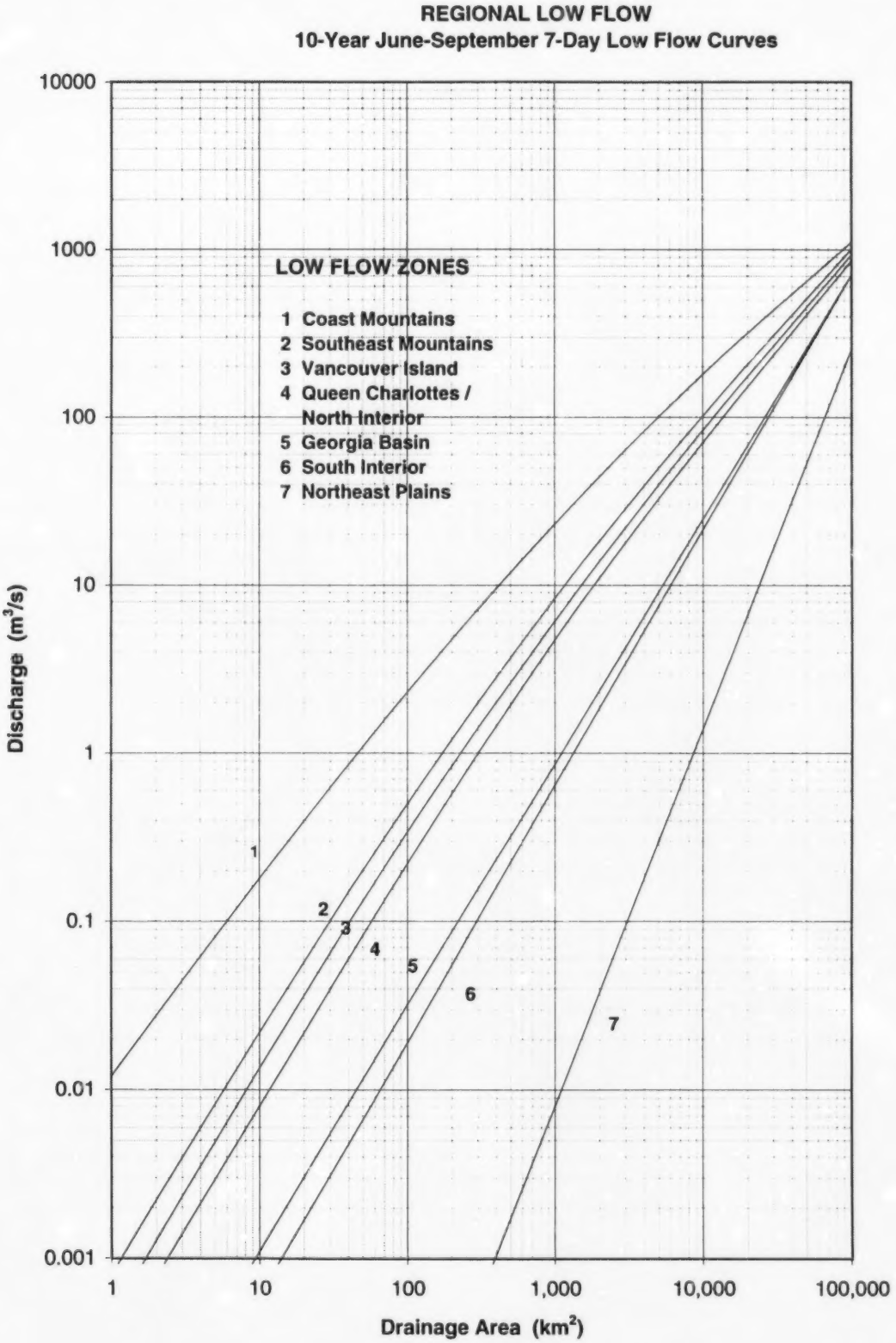


Figure 8 June - September Low Flow Graph

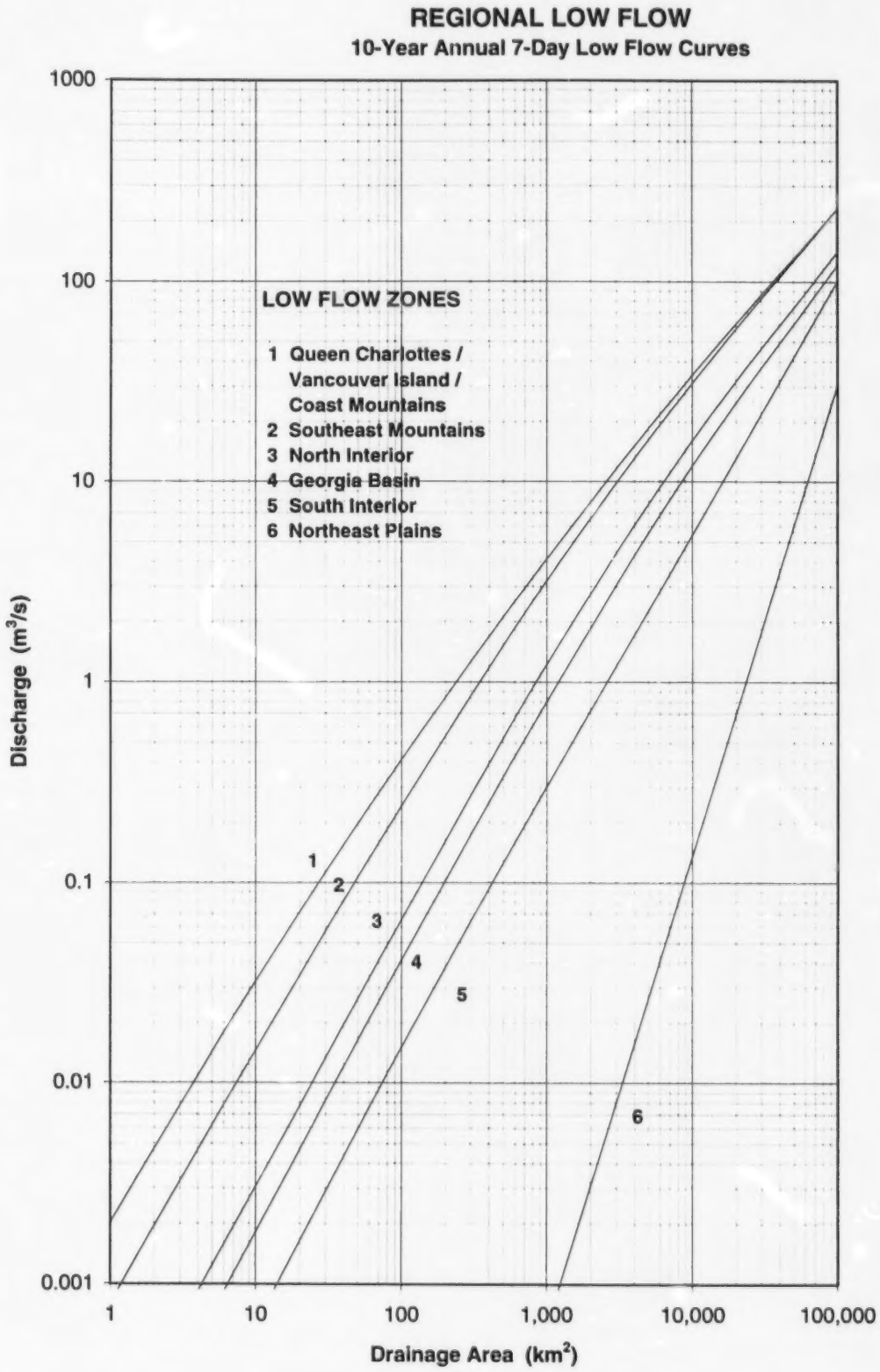


Figure 9 Annual Low Flow Graph